What is Real Clicker Training?
By Gary Wilkes

Note: This is an account of the origins of my work. Unlike other versions of the story, the advantage to this one is that I was there. I did the work. That is why I am qualified to offer an advanced behavior course. Much of what I teach is composed of things I discovered, developed to a higher level or created from nothing. I think you will find the journey worth the read.

Recently I gave a series of presentations at a dog behavior expo in California. One of the attendees was a recent graduate of an on-line dog training academy. She told me that after her graduation she felt as if something had been missing and that my presentation connected the dots and filled in the gaps. The critical missing element wasn't using a clicker or focusing on using almost exclusively positive means to shape and craft behaviors – the core concept of the presentation. She had heard the positive stuff from many sources and realized the critical importance of using mainly positive methods. She was missing the process of creating unpleasant consequences for inappropriate behavior or for failure to obey a command.

At the same seminar, one person complained that I was merely an old-style "force trainer" and requested that the sponsors get a real clicker trainer, next time. These opposite perspectives on the same method of training prompted the current topic – what, exactly, is a clicker trainer and why are people confused about what that means?

In May of 1992, Karen Pryor and I gave a seminar in Vallejo, California. It was the first of more than a dozen that we did together. (The actual name "clicker training" was coined in an article published in the AKC Gazette several months later and popularized on the then embryonic internet.) At the time of that first seminar, I had already clicker trained about 1,000 dogs over a period of about five years. I worked primarily by veterinary referral with dogs who were at the "deal-breaker" stage in their lives. Karen's knowledge came from years of marine mammal experience indirectly based on Keller Breland's brilliant interpretation of Skinnerian operant conditioning. Her book, Don't Shoot the Dog had created a stir in the dog-training community. It is a tantalizing description of training that isn't rooted in aversive control. It is also only loosely connected to reality and behavior analysis. The title, in Karen's defense, was selected by an editor at the publishing house. However, the idea that it somehow tells you how to avoid shooting the dog is a leap. The biggest shortcoming of the book is that it sticks to the same assumptions of all Skinner-based training methods –

1. You can teach any animal to do anything

2. Positive reinforcement can control any behavior

3. Aversive control is dangerous and, if you understand modern, science-based training techniques, unnecessary.

4. These assumptions are validated by science and confirmed by proven accomplishments within marine mammal, exotic animal and laboratory training environments.

These four assumptions are currently in vogue in every academic institution, veterinary behavior organization, animal behavior association and almost all of the dog trainer's organizations in the country. Too bad they are neither scientific nor true. There is also an undertone that if you don't use these methods the only alternative is to shoot the dog – a gross exaggeration that implies that punishment that will save an animal's life is A) Not a part of the equation and B) closely associated with shooting the dog. Ironically, it is the absence of punishment that most often leads to a dog's death. (See this post for a specific example that is close to home for me. http://clickandtreat.com/wordpress/?p=945)

In many times, in many places, people have decided to believe things that aren't true. In a recent survey, 75% of people believe in UFOs, yet 75% of people have never seen one. While there may be some overlap between the two groups, the fact remains – seeing may believe, but believing doesn't require seeing. The problem was, and is, that the foundational assumptions of "all positive" training are based on myopic research and the behavior of grazing, browsing animals such as rats, pigeons and dolphins in complete captivity. They are not directly applicable to predatory beasts like dogs. Additionally "positive" training is not based on objective observation. It is an ideological catechism that must ignore reality and block any logical questions about the results of its use.

The Seductive Fantasy: A Coercion-Free World for Dogs.
This bias in favor of positive reinforcement is the primary flaw in both behavior analysis and main-stream clicker training. Serious dog trainers raise a skeptical eye at the suggestion that aversive control isn't really necessary and that any use of compulsion is merely the first resort of uneducated, incompetent or brutal trainers – the common mantra of all-positive trainers. Likewise, anyone who has trained a working dog realizes that there isn't any treat in the world that will stop a Jack Russell from chasing a squirrel. When Karen Pryor claimed that she could do that at a seminar in Toledo, Ohio in 1992, the rational trainers rolled their eyes. I did too. I restated reality at the expense of contradicting my fellow presenter. I knew Karen's dog. She couldn't have called him away from sniffing a bug, let alone stop him from chasing a squirrel. She only said it because she was trying to counter the logical objection to her positive ideology. A connection between reality and her claims of effectiveness was completely absent during the time I worked with her. She said what she thought would advance her mission. She's still doing it, more than 20 years later – and still hasn't clicker trained a dog to any standard. Contemplate that for a moment – an expert who has never actually done what she claims is her specialty.

The Missing Component:

The reality is that only aversive control is capable of stopping a dog from being a dog when it feels like it – and dogs chase squirrels. Ultimately, there is no greater treat for a predator than the act of predation. From the beginning of the schism within clicker training, (meaning my version based on years of experience and Karen's alluring claims) this dichotomy raised a question of overall efficacy, regardless of sweeping promises of superior performance and control.

However, this issue of effectiveness was actually based on a misrepresentation and a misconception. At all of the clicker training seminars done by Karen and myself, except one, I presented a section on aversive control and my belief that it is a necessary part of dependable performance. I have given exactly two seminars that did not include specific information about the ethics, practice and wisdom of using aversive control. (Here's a copy of the first article about clicker training to back up my statement. I also have the only video from that seminar. FirstClickerPublication1993DogWorld)The first was at Karen's request and the second was a prohibition from the Association of Pet Dog Trainers in Britain. (I regretted the first one but not the second. Fools and their money are soon parted. I was also required to do an "advanced" seminar for the UK APDT. I didn't think there were any advanced clicker trainers but I did it anyway. I asked the audience the critical question. "How many of you have clicker trained more than one dog." One woman raised her had. She had trained two dogs – both her own. Hubris is often laughable.) The perception of clicker training being all-positive was in the minds and hopes of the attendees rather than in the content of the presentations. In effect, many of the people who flocked to clicker training were entranced in all-positive training and dismissed any information that conflicted with their ideology. And so it goes, today.

When Science Reared its Ugly Head:
An additional complication in the development of clicker training resulted because the method was introduced simultaneously at a dog training seminar and a scientific conference. The Association for Behavior Analysis (ABA, now ABAI) was having a conference in San Francisco that coincided with a request by Kathleen Chin of PuppyWorks for Karen to do a seminar based on Don't Shoot the Dog. Karen was also invited to put together a panel discussion for ABA demonstrating the progress that animal trainers were making using operant conditioning in zoos, aquariums and dog training. The panel was well received and ABA welcomed the new focus and new people into the fold. The organization invited me to become a full member. I had made my entrée into 'behavioral science' and presented dozens of times at international and regional behavior conferences, veterinary conferences and grooming expos.

The problem was, and still is, that behavior analysis has little to do with training animals in the real world. As dog trainers started sucking up to behavioral scientists, the education passed in the wrong direction. The trainers had something that could have revitalized behavior analysis – but instead, the trainers wanted the trappings of science and sold out their unique perspective on behavior. Too bad for both. People enamored of the all-positive perspective used the "positive" bias of Skinnerian ideology to justify their position – even though they were working with a species that doesn't fit the Skinnerian mold. The absence of real-world examples of dependable performance with dogs didn't stop the headlong rush to ape the language and

ideology of behavior analysis.

The Fly In the Ointment: The Ancient Art of Effective Training
To be plain, there is a huge problem with using the existing scientific framework to improve dog training. Dog training works from its foundation all the way through complex topics and applications. Scientific training is flawed at its core. Even if it offers some innovations, it can't be used reliably in the real world and isn't really an improvement on what already exists. Traditional dog training methodology has worked for more than 15,000 years in hundreds of different applications with hundreds of millions of dogs. Science-style training has repeatedly failed to give dependable performance in the same settings. The examples of "positive" based failures are endless. Watch any agility competition and you will see dog after dog that will not reliably hold a "stay" at the start line, has trouble with the pause table and has to be distracted at the finish to prevent the dog from biting the handler. Likewise, they periodically "dope-off" and simply leave the ring – often to pursue instinctive behaviors like attacking other dogs. The questions that arise from these common problems are simple and obvious. How is it that a Border Collie herding sheep will lie like a rock at any time and any distance from the handler, but can't freeze on a pause table in the agility ring? How is it that an Australian Shepherd isn't allowed to bite sheep when it is herding, but has to have a rope-toy waved in front of its face to accommodate the expected bite at the finish of an agility run? Why can't the agility dogs perform with the same level of accuracy as their working counterparts? Trust me, it's not the breeding, it's the training. Agility trainers are adamantly opposed to correcting their dogs because they are afraid it will slow them down – even though corrections do not slow down real herding dogs. The result of this mistaken conclusion is a batch of loose-canons who perform well below the standards of even conformation handlers – where any lack of focus means you lose the contest and any sign of aggression is cause for dismissal and ejection from the grounds.

To be specific, dog trainers have a history of creating a mutually beneficial, productive and dependable bond between themselves and a former competitor – a violent, moody, hungry, nasty, pushy and again, hungry animal who by all rights should routinely turn on their masters – but they don't. These creatures are kept in human habitations and help control herds and flocks of food animals – but don't eat them. They hunt for lost people, hunt for mines, protect our homes, share our beds and live off our scraps. They retrieve game without leaving teeth marks (or rip the prey and hold it while a hunter comfortably shoots it.) and protect our homes from intruders. There is no other species as bonded to us as dogs. Here's the rub. Humans love dogs. Humans do not generally love rats and pigeons. Scientists study rats and pigeons. Scientists do not study dogs. (This is starting to change as general research grant money is drying up and the scientists are scrambling to be meaningful) The assumption that rigorous study of rats and pigeons will yield valid information about dogs is a leap of faith, yet to be proven, with all evidence pointing to the contrary. Studies of dogs that mirror rat/pigeon studies fall well short of current and past accomplishments by trainers. Comparison studies of how rat and pigeon methods could work with dogs have never been conducted scientifically. Meaning, the claims of efficacy surrounding behavior analysis and dog training are simply speculation and not at all the result of scientific investigation or simple documentation. To quote the old Southern aphorism,

"that dog don't hunt."

Dogs Can't Hunt in a Skinner Box:
To prove what I say, consider this. There have been thousands of studies of rats and pigeons by behavioral scientists over the last 80 years. Other than the pioneering work of Ivan Pavlov, dogs have been almost studiously avoided by behavioral scientists. (Again, this is changing but not for the better. Some scientists are seeking to corner the dog market by "proving" things that dog people have known for millennia.) With one or two noticeable exceptions, every behavior analyst sets up theoretical experimentation on rats and pigeons. At major scientific conferences, you will find hundreds of papers, panel discussions, workshops, poster sessions and invited addresses based on studies of ….you guessed it, rats and pigeons. Dogs are almost never mentioned outside the cocktail lounge in the lobby. Even contemporary studies of dogs wear the straight-jacket of the Skinnerian experimental process.
The best example of the failure of behavior analysis with dogs was done by Keller Breland – B.F. Skinner's first graduate student. Breland left academia and decided to train animals in 1945. His first attempt at a training career focused on dogs – a ready market for advanced, scientific methods. He failed. He then moved to birds, marine mammals, pigs and a host of other species. He was hugely successful with all of them – except dogs. Meaning he succeeded with browsing, grazing animals that were in complete confinement. Dogs are starver/gorger/hunters that have great freedom in captivity. They aren't wired the same as those other animals. A dog will sneer at a treat when hungry merely because it's the wrong time of day or the treat isn't enough to match the task. That is because their progenitors eat about once a week. Then they gorge. Then they starve. Then they gorge. (Note: Breland did train mine-detection dogs in the early part of the Viet Nam war, but the dogs were trained by the military to sit, down and come – meaning, they were not trained with "all positive" means. In effect, Breland's work was composed of "add-ons" to the dogs' core repertoires and did not constitute a successful demonstration of Skinnerian methodology.)

When the Positive Ideology Hurts People – In this case, disabled people
Another example of this use of rat and bird methods with dogs was conducted at a major assistance dog institute who desired a less forceful means of training assistance dogs. Two "experts" were contracted to create the new training methodology based on "positive", clicker training methods. The experts used Skinner-Breland style methods, though neither had ever trained a working dog before. Needless to say, it failed. The experts claimed that the assistance dog school didn't follow instructions. (One of them still uses this as a credential while admitting it didn't work. Huh?) The school stoutly defended their diligence and maintained that the method didn't work. (I talked at length to the director) By comparison, Paws With a Cause, in Grand Rapids, Michigan, switched to clicker training about 20 years ago. They graduate almost 200 working dogs per year that are the finest examples of assistance dogs anywhere. The difference is they do not use the Skinner-Breland model of "all positive" training. Punishment and compulsion are deftly used to create happy, reliable working dogs along with clickers, treats and a wealth of positive reinforcement.

To gain insight into why speculation without scientific proof can lead you astray, consider the two species most mentioned among "scientific" dog trainers – dogs and dolphins. Both species are considered carnivorous predators – but there, the comparison ends. Dolphins eat things that are roughly 300 times smaller than they are. Wolves eat things that are ten to fifteen times bigger than they are. Mullet never band together to attack dolphins and dolphins never have to "take the hit" when finding their meals. They graze on schools of fish that cannot hurt or impede them. Behaviorally, dolphins more closely compare to grazing, browsing animals such as rats and pigeons than wolves or dogs who hunt animals many times their size and pay a regular price of pain and injury in order to stay alive. Using a training method that works for a grazing animal isn't likely to work effectively on a full-blown, rip your head off, I don't care how big you are, meat eater...and it doesn't.

Ironically, Keller Breland understood that different species had instinctive behaviors that made any "cookie-cutter" training method unworkable. That was the primary disagreement he had with his mentor, Fred Skinner. In 1960, Breland rebutted this concept with a scientific paper called "The Misbehavior of Organisms" – an obvious jab at Skinner's magnum opus, The Behavior of Organisms. In his paper, Keller points out several significant areas where positive reinforcement shaping simply didn't work. The problem was something Breland called "instinctive drift." This is a perfect example where scientific speculation fell apart when actually put to a test. One of Breland's examples pointed to Skinner's primary rule – reinforce a behavior and you get more of it. Virtually everyone accepts that rule as scientific dogma. To shoot a TV commercial, Breland had to teach young pigs to put a large coin in a jumbo piggy-bank. He quickly established the behavior as advertised. The piglets became adept at picking up coins and putting them in banks. Then the other hoof dropped. Within a few weeks of learning the behavior, the pigs stopped picking up the coins and started pushing them around with their noses – their instinctive behavior of "rooting" for food. He also catalogued chickens who scratched the ground with their feet, regardless of losing opportunities for food rewards. The chickens were being controlled by an instinctive behavior, triggered by an opportunity for food that simultaneously prevented them from getting food. According to Skinner, this couldn't be – but based on Breland's direct observation, it was. Many animals obey mini-instincts that in specific situations seem stupid – like African Wild Dogs so mesmerized by visual stimuli that they stand stupidly watching Wildebeest run past them as several of their fellows struggle to bring one to the ground. Instead of throwing their weight of numbers to rapidly secure a meal, the animals gaze dopily at the running Wildebeests, potentially losing the meal by not working as a pack. Breland would suggest that this type of instinct trumps Skinner's assumption that "reinforcement" can control any behavior. He'd be right, too.

Ideological Myopia and False Assumptions:

While Breland's claim that instinct had to be considered when speculating about the potential of "positive" operant conditioning, he missed the bigger picture. There are many different ways for any species to react to external events. In the case of dogs, Breland and a host of others have failed to integrate a dog's ability to "take the hit" and continue to perform happily. The universal assumption that science-based operant conditioning should never include aversive control is as mindless as Skinner's decision to ignore instinct as it applied to positive reinforcement. Additionally, Breland failed to realize that unless you use aversive control to

compel or inhibit a dog's behavior, reliability is practically impossible. It is the nature of dogs to be autonomous in many things, but especially in hunting mode. The mesmerized African Hunting Dogs are not an exception, they are the rule. When your Jack Russell sees a running squirrel, no hot-dog in the world is going to dissuade him from making a bee-line for his prey. The only thing that can create reliable control over that dog in that situation is some form of powerful aversive control – we all know that, even if the multitude tries to evade the reality. Yes, I realize that is political heresy – but nonetheless it is true. My boss is *veritas* – truth for truth's sake. I highly recommend signing up.

A click and a treat for "sit" rather than jumping – and example of contingent positive reinforcement

Potentially fatal jumping behavior

Practical Considerations:
So, the real problem with clicker training is that there are two separate views of the process. One side sticks to the Skinner/Breland preference for positive reinforcement in all things and places a taboo on investigating, discussing or using aversive control. The other perspective assumes that neither reinforcement nor punishment can possibly be good or evil, without a reference to a specific task or goal. Only in the context of a specific application can any behavioral effect be judged as beneficial or damaging. For example, hundreds of thousands of dogs are destroyed each year because they greet humans by jumping on them. This behavior is taught to them by humans when they are infants – with positive reinforcement. To stop a dog with a long history of jumping on people a non-dangerous punishment procedure can quickly inhibit the behavior. In this example, positive reinforcement causes the deaths of many dogs while positive punishment could save them. It is the choice of the trainer to select the tool that is most likely fix the problem. For effective clicker trainers, the key is to find the right combination of behavioral effects that are likely to teach correct behavior and make it

dependable in the real world. If you follow the punishment with clicks and treats for correct behavior an inhibition can be created that leaves a lasting absence of the unacceptable behavior with only beneficial side-effects – a loving, polite dog that will stay in the home.

Not surprisingly, the latter view is far more likely to develop dynamic, happy, dependable working dogs. It's not surprising because it's the formula that has worked for more than 15,000 years — from a shepherd working a Border Collie in Scotland to a Viking hunting Moose in Norway. Dogs that work in the real world have never been trained with "all positive" methods and work happily even though they have been punished and compelled by their handlers to do their jobs correctly. (If you are ideologically driven I must remind you that "punishment" is not a synonym for abuse.) For example, the Border Collie was bonked on the head with a shepherd's staff, as an infant or adolescent, when he failed to "lie there" – a clear and common use of aversive control that had no traumatic effect on the dog's behavior. Instead, the adult animal reliably lies when told and doesn't argue. No tangible reinforcement need be offered to correct or enhance the dog's performance other than the opportunity to chase sheep – an instinctive, internal motivation. His tail wags and his smile is undeniable – even though he was "punished" for improper behavior. Likewise, an Elkhound will trail a moose for many hours and then hold it at bay by darting and circling the animal while barking rhythmically – an instinctive behavior common to that breed. No hot-dog treat will influence this behavior once it has been triggered. If the hunter wishes to modify the dog's style, aversive control is the only type that can be effective. If you choose not to use aversive control, your Elkhound will hunt willy-nilly, as he sees fit – another instinctive behavior. All dogs are essentially autonomous unless influenced by external events such as "training." If you are a "positive only" clicker trainer, you might as well stay home.

In the long run, behavior is a natural phenomenon, like gravity – it exists independent of anyone's opinion. Either your method works in the real world or it doesn't. Adding a clicker to an all-positive methodology doesn't help. (The largest big-box pet supplies store wanted me to "fix" their ineffective training program by teaching clicker training to their supervisors. I laughed at them. Their training doesn't work because there is no aversive control.) The clicker yields incredibly precise behavior under very limited conditions but an exclusively positive process fails miserably when you need it the most regardless of how precise a behavior is in a vacuum. All of the claims and promises of someone's success are meaningless if you can't replicate them using the same specific instructions. The real purpose and promise of clicker training is to develop an understanding of behavior that transcends anything that has come before. Intentionally limiting your knowledge to one aspect of learning while ignoring the full spectrum of the phenomenon yields imperfect knowledge – and to paraphrase B.F. Skinner, bad theories lead to bad practice. Real clicker training emphasizes the process of connecting information to motivation in order to help our dogs reach their full potential. Denying them the experiences that can make them great should be done with full knowledge that it is a personal choice rather than a scientific rule.

*Nature requires all animals to avoid things. Our behavioral abilities include sophisticated ways to adapt to things that could hurt us. To remove this vital aspect of experience is like removing

a vital nutrient from an animal's diet.