

# A Transformation Devoutly to be Wished:

## What we are beginning to discover from the clicker training revolution



By Karen Pryor

### Traditions in animal training

In the late 1950s and early '60s, a revolution began in animal training. It started with the dolphins. It spread to birds and zoo animals, and then to household pets. Now we are just beginning to see the results – in old traditions, in communication between animals and people, perhaps even in society itself – of the process that began half a century ago.

Animal training has been much the same, across most of the planet, for thousands of years. Throughout history, animal training has been largely an artisanal activity, like blacksmithing or carpentry. It was learned by apprenticeship and practice. As in any craft, attaining real mastery took natural talent and years of dedication. For everyday purposes, most people didn't bother with more than the rudiments.

The model for traditional animal training is, in my opinion, a social model. Trainers, farmers, pet owners, and in fact most humans, tend to treat animals as if they were subordinate human individuals. We humans control the behavior, and especially misbehavior, of lesser beings by social dominance – and, if that doesn't work, by physical force. Whether we are

dealing with cows or yaks, sled dogs or elephants, if we want the animal to move, we pull on the front end, or hit, spur, push or prod the back end. If we want the animal to stop moving around freely, we use physical restraint: the leash, rope, fence, bridle, barn walls. From the animal's standpoint, compliance produces good results: the pressure eases when the animal gives in.

Animals soon learn to recognize the signs of coercion, and to respond to the hints. A lift of the hand is enough to move the herd or stop the dog from approaching; you no longer need to actually wave sticks, thump rumps, or yell. Thus the trainer is reinforced for diminishing effort, a natural shaping contingency. Another natural contingency, however, is that when an animal fails to respond to, say, a raised hand, the trainer's natural response, as a dominant individual, is to escalate the threat, and if that doesn't work, to apply physical punishment.

This has two consequences. If the animal finally does comply, the trainer is instantly reinforced for using the punishment. Furthermore the longer it takes, the more reinforcing the final escalation. Hey, it worked, didn't it! The fact that punishment did NOT work at first, or quickly, is masked

entirely. Eventual success reinforces the trainer's punishing behavior. This is one reason why traditional training almost always includes escalating levels of punishment. These punishing techniques (and tools) are never recognized as something that trainers have unknowingly been conditioned to use. They are, instead, justified, and sometimes passionately defended, as being necessary for the safety of the human, and a prerequisite to any complex or demanding work.

### The new training: Operant conditioning

Then along came what we dolphin trainers were taught to call operant conditioning (positive operant conditioning, or free-operant conditioning, may now be more accurate technical terms). The basic research that kicked it off happened in the laboratories of B. F. Skinner, at Harvard, before and during World War II. Skinner and his

associates identified and named some of the mechanical processes by which animal behavior could be modified. The field of behaviorism, or behavior analysis as it is presently called, was spawned by the discovery that the acquisition of behavior follows basic laws.

Meanwhile, in the 1950s and '60s one little part of behaviorism – free-operant conditioning, or the shaping of uncoerced and voluntary behavior – became the basis for a new area of animal work: the training of dolphins. After World War II oceanariums, or aquariums with huge pools capable of holding large animals such as dolphins and small whales, became popular tourist attractions. At first no one realized the dolphins could be trained. They were just exhibit animals, like the fish. Then various students of B. F. Skinner began getting hired as trainers or training coaches. From Skinner's rats and pigeons the laws of learning moved to the dolphins.

I first learned my operant conditioning as a dolphin trainer in 1960 in Hawaii. We early dolphin trainers were utterly free to discover what we could do with these new tools. We were free, I think, because we had an animal for which no training tradition existed. There was no one to tell us "You have to do this," or "You mustn't do that" or "That'll never work." So dolphin trainers could explore a new kind of training, one in which force was not an issue, dominance did not arise (how are you going to dominate an animal that just swims away?) and punishment, deprivation, and threats were not needed.

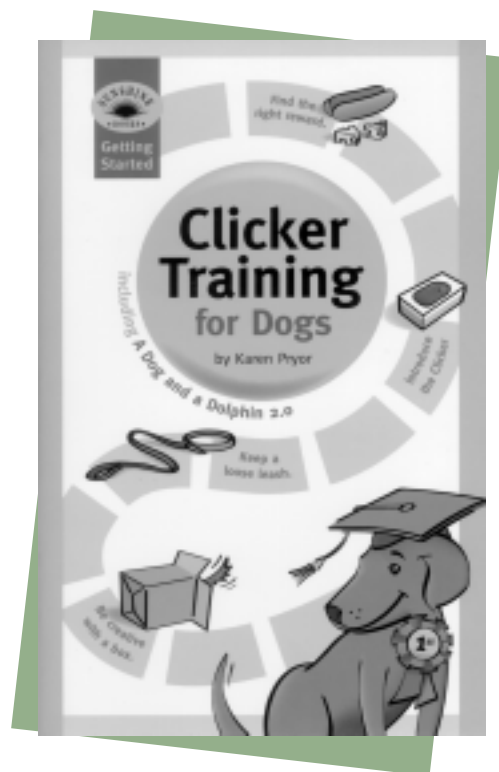
## Differences between traditional and operant training

Traditional training begins with a command. You tell the animal what to do, and then you enforce the action. Sit. Down. Whoa. Scat! We operant

*"Throughout history, animal training has been largely an artisanal activity, like blacksmithing or carpentry."*

trainers do everything backwards. We start with the reinforcer. Here: here's a treat. Then we establish a marker signal or conditioned reinforcer – a sound, a light, a gesture – that means "Treat's coming." Then we let the animal discover that it can cause that marker signal to happen by its own actions. The dolphin jumps – and *makes* the trainer blow the whistle. The dog sits – and *makes* the person click a clicker.

The training really begins when the animal discovers that it can make the trainer give signals and thus treats. That discovery is tremendously exciting for the learner. Dogs bark, dolphins leap and splash, and elephants, I am told, run around in circles chirping. It is, after all, real communication, and initiated by the learner, the trainee.



This discovery, this "light bulb" moment, can happen in the first few minutes of the first training session. It leads to the development of deliberately offered behaviors, which trainers can change or increase without any physical interference, guidance, or restraint at all, simply by choosing when to say "Yes!"

Not until the animal is confidently giving us a fully formed behavior do we add the signal – the raised hand, the spoken word – that will come to be the cue or discriminative stimulus. Traditional trainers have trouble believing that we operant trainers really can build reliable behavior without punishment. But they seem to find this absence of an initial 'command' even more baffling. "How does the animal know what to do?" "He doesn't," we say. "He's finding out for himself."

It's certainly a new concept. The cue doesn't order the animal to do something. Instead, it identifies exactly which already-learned behavior will earn a "Yes!" at this particular moment. It's an opportunity, not a threat; and because of the history of positive reinforcement, the animal trained in this way is constantly alert to those opportunities. A so-called "clicker trained" dog focuses on the



*Karen and her granddaughter*

trainer, hopes for cues, recognizes TONS of cues (100 or more is not unusual) and responds to cues with alacrity.

## *Going to the dogs*

When I learned my dolphin training in the '60s, it was quite apparent to me, and indeed to most marine mammal trainers, that our technology could be applied to any animal. At Sea Life Park in Hawaii we trained Hawaiian pigs and chickens, seals, free-flying sea birds, our own dogs, cats, and horses, and, for fun and practice, each other. In the words of scientist/trainer Keller Breland, we could train any animal to do anything it was physically and mentally capable of doing. However, for the next thirty years, to my mystification, our kind of training did not spread beyond the oceanariums. Our fancy applications aroused no interest or curiosity among scientists and academics. They, like the general public, seemed to attribute our astonishing results to the dolphins, not to the training; and in fact we ourselves often made the same assumption. We had nifty animals, so we could do this nifty training.

I described our cooperative, non-punitive training in a book about my dolphin training experiences, *Lads Before the Wind*, which was published by Harper's in 1975.

I thought people would read about the training and start using it. Except for the rare individual, most people, however, could not read about dolphin training and see the general applicability of free-operant training. So in the early 1980s I wrote a second book about training without punishment, titled (by the publishers, not by me) *Don't Shoot the Dog!* This time I pointed out very specific human applications for each underlying principle. The book came out in paperback. Sales increased steadily over the next decade. Somebody was reading the book, but who? It turned out to be dog trainers. Positive reinforcement was making huge inroads into traditional dog training, among pet owners especially, who often don't want to use the choke chains and dominating tones of traditional training on their beloved dogs. And these people were not only buying my book, they were coming to me for more information.

Though I didn't consider myself a dog trainer *per se*, I gradually began accepting speaking invitations to dog clubs and associations, to talk about the dolphin trainers' version of operant conditioning and how it might be applied to dog training. The dog trainers found it interesting. I found them, and their questions and problems, very interesting too. I was then

living in the mountains outside Seattle. A few serious local trainers began coming out to my place to discuss training applications – for show dogs, for police patrol dogs, even for horses. So I had an audience; but except for these few local aficionados, no real converts.

The large-scale conversions began, in my opinion, on May 16, 1992. I was going to San Francisco to give a scientific lecture, and I had also been invited to give an all-day public workshop on dog training. I asked marine mammal trainer Ingrid Shallenberger and one of my Seattle visitors, animal control officer Gary Wilkes, to join me.

## *The clickers click*

Until then, in dog training lectures and demonstrations, I had used a whistle to shape behavior. Dog trainers however already use whistles, as

*“We dolphin trainers had an animal for which no training tradition existed. There was no one to tell us ‘You have to do this,’ or ‘You mustn’t do that’ or ‘That’ll never work.’ So dolphin trainers could explore a new kind of training, one in which force was not an issue, dominance did not arise (how are you going to dominate an animal that just swims away?) and punishment, deprivation, and threats were not needed.”*

commands or reprimands, not as conditioned reinforcers, in long-distance activities such as herding, tracking, and hunting. They use a lot of words, too, so they don't want to have something in their mouths. Gary Wilkes had found a source for well-made plastic and metal clickers. They were sturdier than the tin crickets children play with. He suggested we use those for conditioned reinforcers in our demonstrations, and give them away to the audience as well.

The clickers, I think, did for the dog trainers what the dolphins did for marine mammal trainers. They precipitated the change. There was no tradition of training dogs, or anything else, with a clicking device (although Skinner himself suggested in an early article that a toy cricket or clicker might be a good tool for training dogs). Since no one had preconceived ideas about

the clicker, people were able to accept the idea of using it to train in ways they'd never heard of.

Wilkes and I shortly found ourselves invited to give clicker seminars in other parts of the country. We each made videos, and people bought them. The demand for information grew and grew. Gary moved to Phoenix and opened a business as a behavior specialist. In Seattle I started a publishing and mail order company to produce and sell books and videos on what was now being called "clicker training."

It's been said that in order to catch on, a new technology must have immediately obvious benefits. People could watch us teaching dogs from the audience all kinds of things in just a few minutes. It must be easy to learn in small increments. Well, people could take their clickers home, cut up a hotdog, start clicking, and instantly teach their own dog to lift a paw, or sit, or turn in circles. Finally, to spread rapidly, a new technology must be easily communicated. Thanks to the rise of the Internet and the phenomenon of e-mail, new clicker trainers could spread the technology instantly, all over the planet. Within a few years tens of thousands of people were clicker

training dogs and horses world-wide. Zoo keepers were using clickers to tend wild animals, teaching everything from giraffes to lions to rhinos to stand still for foot care and blood sampling. People who first learned their clicker training with dogs or horses were beginning to use it with children and other human learners, in such areas as gymnastics, physical therapy, developmental disabilities, speech therapy, and, in one exciting program, flight training.

### *Clicker training the trainer*

This was gratifying to me of course. It was wonderful to see these benevolent methods finally catching on in a widespread way. However in all these arenas the talisman, the clicker, was proving useful in a way I had not foreseen at all.

I now think the click and the giving of the treat not only reinforce behavior in the animal: they reinforce the behavior of the trainer. It is a thrill to pull off a well-timed click; you have to be ready and watching for the instant you like, and you have to think fast.

*The burgeoning interest in clicker training led Karen Pryor to found a research and educational organization devoted to the diverse applications of shaping behavior with a marker signal. Currently incorporating in Massachusetts as the **Pryor Foundation**, the fledgling organization will encourage innovations in marker-based shaping of behaviors in people and animals, and serve as a clearing*

*house. Karen Pryor, Myrna Libby and Lynn Loar are the Foundation's first officers. A web site should be ready by the end of the year. In the meantime, **www.clickertraining.com** will keep people current on the latest developments. All of Karen Pryor's books and tapes and Morgan Spector's Clicker Training for Obedience can be ordered from that web site or by phoning:*

**1-800-47-CLICK.**

If you successfully “capture” the behavior you want, all your own simultaneous behaviors – attentiveness, timing, creative thinking – are reinforced by the same click that tells the animal what’s right. And then you have to pay, to shell out a peanut or a fish or a cube of cheese, for what you just got from the animal. It’s fundamental societal behavior, but quite different from dominance and submission. This kind of training involves two-way communication. It’s a bargain, a shared endeavor, a business agreement. A sport, even. And the click makes that uniquely clear to both participants.

Blowing a whistle or speaking a word, both of which we humans have a long history of doing, are not unique experiences at all. People don’t learn the new training nearly as easily

and fast if they stick with the old tools. The arbitrary strangeness of the click is one of its most important characteristics, for animal and trainer both.

Following the activities of this vast and burgeoning population of clicker trainers, I have gotten yet another big surprise. This kind of training actually changes the trainer, as well as the learner, in some fundamental ways. While I was still throwing fish at dolphins, people often used to ask me what I was learning from being a dolphin trainer. They were hoping for some mystical animal experience, I suppose. I always answered, flippantly but truly, that I had learned to stop yelling at my kids. Now, however, with a lot of people “crossing over” from traditional to operant training, we can see that this observation is not trivial. Learning clicker training sometimes does transform the way the trainer interacts, not just with the learner, but in other parts of life.

Author and clicker trainer Morgan Spector describes it as a change in your world view. As one man poignantly put it on the Internet, “I stopped jerking my dogs around and then I noticed what I was still doing with my kids.” A high school teacher who spent a summer clicker training her competition dogs wrote, “Every year I start out with a few serious problem kids who end up being removed from the class. This fall I didn’t have any. What happened?” She came back to school looking for good behavior and reinforcing it, instead of looking at bad behavior and trying to stop it. And the kids caught on right away.

Indeed one’s personal life can change, as well as one’s interactions.



*Karen Pryor with clicker trained computer dog, Twitchett (Editor’s Note: Twitchett appears to be pondering Microsoft’s future.)*

New York Times photo by Rick Friedman

*“I now think the click and the giving of the treat not only reinforce behavior in the animal: they reinforce the behavior of the trainer.”*

As an example I offer these comments by professional dog trainer Brenda Aloff. “This does wonderful things for me. Since I am in the state of being non-judgmental toward my animal, I am kinder to myself and can make errors of my own without passing judgment on myself. This was something that I did not expect from merely a training technique, this change in myself that I enjoy so much.

“One of my students and I were discussing this recently. She noted that she generalized this behavior of ‘concentrating on correct behaviors instead of blaming and finding fault’ from her dog training into how she looks at life. ‘I am no longer afraid to be wrong, or embarrassed by it. I figure if I just keep working on it, I will get it right. By looking to the things I get right, I don’t dwell on what I got wrong, and I get a lot more done!’

“So the end result, one I certainly didn’t anticipate, was the same phenomenon my friend noticed – better interactions with my pets, my friends, my family, and my students – and more confidence in myself.”

**Click!**

