

## **The Art of Training**

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What is it that enables some people to venture beyond traditional perspectives and practices to pioneer new methods and achieve new levels of performance? Some people just have a propensity for functioning at levels beyond many other people's comfort zones or abilities. When you consider the areas we have come to call "the arts," you find painters, sculptors, musicians, and even sports figures, etc., all practicing their craft at levels beyond the limits of us mortals. These are the people with talent, insights and skills that allow them to perform at extraordinary levels and earn them the status, or reputation, of artists.

I have been around animal trainers for most of my life and have seen a few people who I would call animal training artists. These people have remarkable ability to work with their animals and create behaviors and routines that are outside most people's ability or comfort zone. For instance, Iuri Ova, a dolphin trainer at ZooMarine in Portugal, performs some amazing behaviors in the dolphin show. I have seen many dolphin shows all around the world, but in this show there were two behaviors that really stood out. Above the pool were three rings suspended from lines. Of course, I and the rest of the audience suspected that the three dolphins in the show would at some point jump through the hoops. But, to our surprise, the behavior went a bit differently. Iuri led the two dolphins on a foot push to the bottom of the pool. Moments later, he broke the surface of the water and was propelled through one of the rings by the two dolphins. The behavior was spontaneously unpredictable and way beyond my imagination. A few minutes later, he followed with another unique behavior. Again from a dolphin foot-push, he came high out of the water toward a ball suspended from a line overhead. At the last moment, he arched backward to kick the ball with his foot, something most of us would have been extremely impressed to see a dolphin do. To see a trainer do this was incredible. To put these two behaviors into a show requires creativity, perseverance, and an extremely high level of skill...all qualities found in the most artistic of trainers.

There are other artists in the animal training field whom I have admired and had the good fortune to have learned from. These lessons and experiences have stuck with me and hopefully made me a better trainer. Today, I'll share with you some of the most important lessons I have learned from some of the most artistic animal trainers in the business. Many or most of these things are not found in psychology books or animal training books. However, they are strategies and techniques that have been helpful to me and will hopefully be to you as well.

### **Take Responsibility**

The first step toward becoming the best animal trainer possible is to take responsibility for the animals' undesirable behavior as well as well as the behavior you like. Too often animal trainers make up excuses for their inability to train an animal. These excuses include things like: "He's hormonal," "He's phobic," "He was abused," "He is messing with my mind," "He is pushing my buttons," "He is abstinent," "He is in a bad mood," and lastly, "He is training me." With the exception of the last one, all of these labels are little more than anthropomorphic interpretations that have nothing to do with the real motivation behind the animal's behavior. "He's training me," may be the closest to an accurate interpretation, but it is still not a valid excuse for the trainer's inability to train the animal. Animals are always scanning their environment for opportunities to earn reinforcement and opportunities to avoid things they don't like. Of course a trained animal will look for ways to get you to give him or her reinforcement, or in a sense, train you.

The animal trainers I admire most are the ones who accept responsibility for the poor behavior their animal exhibits. Accepting this responsibility inspires and empowers them to develop more productive training plans and relationships with their animals. There is no question that an animal is capable of learning behaviors. The only real question concerns a trainer's ability to teach the animal. The best animal trainers I have known avoid blaming their animals for their inability to train them.

### **Two-way Communication**

The most productive learning occurs when there is a clear exchange of information between trainer and animal. This exchange of information begins with understanding the animal's natural communication methods, which is usually body language and vocalizations. The best animal trainers have developed a keen eye for the subtlest body language in their animals. I have seen animal trainers interpret body language in their animals that is completely imperceptible to me. These incredible observational skills, almost more of an empathy than a skill, is what enables them to gain insights into what an animal is thinking, just by reading its body language. Armed with this information, an animal trainer can attack even the most difficult training challenge with the most positive approach possible. People who lack the sensitivity and skill to read subtle body language have more trouble making progress in training sessions are more likely to resort to more heavy-handed and negative means of motivating animals.

The second half of the two-way communication involves the trainer's delivery of information to the animal. These messages usually come in the forms of cues, bridges, and prompts. A cue, sometimes called an SD (Discriminative Stimulus), is a sound or action that tells the animal what a trainer wants it to do. Once the trainer has conditioned the cue in association with a specific behavior, the trainer delivers the cue to the animal and the animal chooses to respond or not. If the animal responds correctly, the trainer reinforces the animal. Skilled animal trainers work hard to insure that their cues are clear communications to the animal, and are delivered only when the animal is ready to "listen to," or receive the cue. Giving a cue repeatedly to an inattentive animal may allow it to learn to perform the behavior any time it wants, instead of performing the behavior quickly in response to the cue.

Also important in the communication process is the Bridge, or Bridging Stimulus. This is a sound or an action that tells the animal that it just did something right. The bridge got its name because it bridges the gap in time from when the behavior was performed and when the reinforcement was presented to the animal. Clickers, whistles, and voice bridges are the most common bridging stimuli used in the animal training field. The most important aspect of clickers and whistles lie in their novelty to the animal. They are sounds that the animal never hears outside of training sessions, unlike our voice. This is the main reason clickers and whistles are such good markers for performance of proper behavior. However, skilled animal trainers know there is no magic in the clicker...the magic is in the trainer and his or her ability to communicate with the animal. Clickers and whistles are simply communication tools that help in the learning process.

Animals often communicate with each other in the subtlest body language imaginable. With that in mind, the animals we train are capable of understanding our slightest body language as bridges and cues. I have seen sea lion shows where the trainers use an incredibly small foot movement to cue an animal to perform a behavior. I have seen other shows where the same behavior is cued with a huge movement of a waving arm. Similarly, I have seen shows where animals are bridged with loud, obvious clickers and whistles, and other shows where the trainers bridge the same behaviors with very subtle movements of the body, even as small as eye movements. When used properly, subtle cues and bridges, such as body language and voice, are just as effective as loud, obvious communications. However, it usually takes an artistic trainer to develop this level of communication with an animal.

Prompts are anything, except cues and bridges, which an animal trainer uses to help their animal learn a behavior. Prompts are things like body language, voice encouragement, baiting or luring strategies, etc. For instance, to get a jaguar to step up on a bench, a trainer might use a finger point cue and a verbal cue, "Bench." Everything else the trainer does to encourage the animal, like moving toward the bench, putting a piece of food on the bench, bending down toward the bench, and any words of encouragement, might be prompts. To get a bear to come into the holding area the cue might be opening the door and the prompts might be calling the animal by name, clanging the food bowl on the bars of the cage, showing the animal the food, moving toward the food chute, standing out of sight of the bear, etc. Anything other than the cue is considered a prompt.

Prompts are often overused in training situations, which can result in animals becoming dependent on the presence of the prompt before they perform the behavior. Perhaps the most common problem with prompts involves animals learning to ignore the offering of a piece of food only to hold out for the trainer to offer a larger or more desirable morsel before they will perform the behavior. The best animal trainers understand that prompts should be eliminated as early as possible in the training plan. If you use a baiting or luring strategy to teach a lion to shift from one enclosure to another, it is best to only show the animal the food for one or two repetitions. If you continue to show the lion the food, it can decide if the type and quantity of food warrants a quick response or any response at all. If you eliminate the bait, teach the animal to respond immediately to the cue, and vary the type and quantity of the reinforcement, the behavior will become more reliable. Also, if you want your wolf to come into the holding area every time you open the access door, it is best to evolve your training plan to eliminate all prompts and only rely on the open door cue. You can use prompts such as calling the animal's name, moving toward the food chute, showing the food, etc., to train the behavior. But, if you do not eliminate all these prompts early in the training plan the animal may come to rely on them for performance of the behavior.

### **Short Window of Opportunity**

Another communication strategy that encourages quick performance of behavior is what I call giving an animal a short window of opportunity to perform the behavior. A bear in the wild knows that if it does not chase the salmon as it passes upstream it will lose its window of opportunity to catch that fish. This same concept applies to a hawk sitting in a tree watching a mouse walking in the meadow. If it does not fly down to attempt to catch the mouse while it is away from its hole, it will lose its opportunity to eat the mouse.

When training animals to perform behaviors, it is often best to help the animal understand that it has a short window of opportunity to perform the behavior before the reinforcement disappears. If you cue a cheetah to come into the holding area by opening the door and the cheetah chooses to ignore the cue and stay outside, closing the door after a few seconds will help the animal understand it just lost its opportunity to earn the reinforcement. Conversely, if you leave the door open and allow the animal to come inside whenever it decides, you are really teaching the cheetah that it can perform the behavior anytime and still receive reinforcement. In effect, you are training in latency, or slow performance of the behavior. Wild animals fully understand the value of quick performance of behavior. Highly skilled animal trainers take advantage of this hard-wired behavior and teach animals to respond quickly to cues by closing the window of opportunity for the animal to earn the reinforcement. Some animal trainers call this a time-out. Technically, it is negative punishment. Whatever you call it, when you allow the animal to understand that it may lose its chance to earn reinforcement unless it performs quickly, the performance of the behavior will likely improve.

### **Honesty**

Honesty is another aspect of communication with animals that is important to world-class trainers. They know that in order to have the best relationship possible with their animals, they should use clear, honest communication when working with them. They avoid deceiving animals into performing behaviors by doing things like showing a large piece of food to get the animal to go through a door and then only giving the animal a small piece of food when it performs the behavior. I have seen bird trainers offer a peanut to a parrot to encourage it to fly to their hand only to withhold the peanut and not give it to the bird when it landed because it did not respond quickly to the cue. My strategy is "if you show it to him, give it to him." I have also seen trainers trick animals to go inside a holding

area for a tasty treat then close the door and lock them inside over night, or lure an animal's head into a collar with a piece of food only to quickly close the collar around its neck. Artistic trainers understand the best way to train an animal is through small approximations and positive experiences to build trust and confidence. The last thing they would do is trick an animal into performing a behavior that it might later associate with something negative. The trust that is lost when trainers are dishonest with their animals is difficult to recoup.

### **Power**

When I think of my relationship with animals I am training, I often consider the partnership I have formed with that animal. To me, this relationship is as important as anything I do in the training arena. To establish the best relationship possible, I have to be a good listener and develop observational skills that allow me to understand what is going on in the animal's mind. I can never read an animal's mind, but I can read its body language to help me gain some insights into that animal's state of mind.

Once I have learned to read the body language, the next step is to give the animal a strong voice in our relationship. To me, this means allowing the animal to shape my behavior. If an animal shows me through its body language that it does not want me around, I leave. I know some people will say that I am teaching that animal to use its body language to make me leave. That could be true. If an animal shows me aggression, I leave. Yes, this may encourage the animal to be aggressive in the future if it wants me to leave. But, as soon as I leave the first time I see aggression, I make a plan to build a better relationship with that animal through positive experiences so it wants me to be around. The alternative is to stand in front of the animal and ignore the aggression. Some trainers say that you should show the animal you are not scared of it and that you are the boss. I say, I am scared of aggressive animals and I do not want to be the boss of any animal I am training. I want to develop partner relationships with animals that are based on positive experiences, not dominance and aggression. Besides, any animal that rehearses aggression is likely to get better at it. So, at the first sign of aggression, I acknowledge the animal's body language and leave. I then make a plan to reinforce good body language in the animal, which in turn creates a relationship built on trust instead of fear.

I also give animals power to escape almost any situation that I put them in. At Givskud Zoo in Denmark, we were training chimpanzees to enter a shift cage, or chute, where we would later begin training husbandry and medical behaviors. The chute was long, narrow and short, just high enough for a chimp to move through on all four legs. As the first chimp came into the shift and came to sit at the training station, we made an action toward the access door. She immediately ran outside. She returned in a few seconds and we reinforced her for coming back. Again, as we started to close the door, she bolted outside. Gradually, through several repetitions of us reinforcing her anytime we touched the door, she became comfortable with us moving the door mechanism. However, she still bolted outside anytime she saw the door begin to close. We gradually progressed to the point where she understood reinforcement was contingent on the door moving. But, she would not sit still if the door closed too far. We then adopted the strategy that she would control the opening of the door. Anytime she looked at the door, we would stop closing it and open it all the way. Soon her confidence built to the point that she would allow the door to close all the way to receive reinforcement, knowing that she had the power to cause us to open the door just by looking at it. The entire process took two or three days for her to become completely comfortable with being locked away from the other animals in the training area. The key to building this confidence was giving her the power to cause us to open the door anytime she looked at it.

I believe most animals have an innate fear of being trapped in unfamiliar areas. It is a survival strategy that serves them well in the wild. In captive environments, these same instincts cause them to be more guarded, less confident, in tight areas. Often, the best place to train animals is in areas where they have plenty of room to escape, like through the fence of the exhibit, or the bars of the indoor holding area instead of a small shift cage. If an animal has plenty of room to escape, their comfort levels will more than likely increase. We have four Hyacinth Macaws that were housed together in a 10-foot square cage. As we approached the cage, the birds all vocalized loudly and retreated to the back of the cage. When we put these birds in a 50-foot long flight pen, their confidence grew overnight. Instead of flying away from us, they all allowed us to walk up to them and they even began eating treats out of our hands. Within a few days they were flying to our hands for treats knowing that they can leave anytime they wanted to.

### **Motivation**

Animals are always going toward something they like or away from something they dislike. From that perspective, motivation is pretty easy to understand. For every action, the motivation is either to gain pleasure or avoid pain. He either wants to do something or he has to do something to avoid an unpleasant experience. When I think of motivating an animal that I am training, I always try to look at the situation from the animal's perspective. I ask myself, "What's in it for her to perform this behavior?" Actually, "What's in it for me?" is the question we subconsciously ask ourselves anytime we make a decision. From the moment you wake up in the morning until the moment you go to sleep at night, "What's in it for me?" helps you evaluate every decision you make throughout the day. "What's in it for me to wear these pants today?" "What's in it for me to take this route to work today?" "What's in it for me to be on time today?" Everything you do is evaluated in your subconscious before you actually take action. It is the same with the animals we train. They too are constantly evaluating what they will gain, or avoid, if they perform an action.

The relationship an animal has with a trainer is a huge impact on its motivation to work with that trainer. If an animal has a bad experience with a person, it will probably not want to work with that person in a training environment. However, if an animal's relationship with a person is based on positive experiences, it will have a higher level of motivation to work with the person.

The animal's physical ability to perform a behavior also impacts its motivation. Parrots that had clipped wings when they were young will have poor motivation to fly later in life after their wing feathers have grown in. Early in life, animals learn many skills and coordination associated with survival. If they miss the opportunity to learn these skills at a natural time in their life, it will likely be more difficult for them to acquire these skills later in life. Certainly a parrot can learn to fly later in life, but it is more difficult than it would have been earlier in life. Other influences on motivation are associated with natural influences like breeding states, social groups, comfort, security, environmental distractions, etc.

The last thing I think about when creating motivation in an animal is its hunger state. First, I consider my relationship with the animal, its past experience with this type of behavior and training environment, environmental distractions, the animal's skill and confidence in performing the behavior, and the natural influences on the behavior that I mentioned above. Only after I have ensured myself that I have done all I can to set the animal up for success, do I consider reducing an animal's diet to create motivation for the animal to eat the rewards. The animal trainers I admire most are the ones who know how to motivate animals without reducing the animal's food.

### **Relationships**

The more productive relationships are the ones built on a solid foundation of trust. Most often, this trust is built slowly, over weeks or even months for some animals. Each time we interact with our animals in a positive way we make a deposit into our "Relationship Bank" to build that trust. As our account grows, our animals become more and more confident in us and more willing to learn from us. Each positive reinforcement is a deposit that feeds our account and strengthens our relationship portfolio.

Conversely, each time we do something the animal dislikes we make a withdrawal from our trust account. Unfortunately, it is too easy to make withdrawals. Spraying a rhino with cold water to get it to go out into the yard is quicker and easier than training it to go out for positive reinforcement. Quickly sliding a parrot back into its cage as you block its escape with your body may be easier than training the bird to go in on its own. The negativity associated with these types of training leads to large withdrawals from the trust account. Make too many withdrawals and you will find yourself in the relationship poorhouse. When this happens, many people end up blaming the animal instead of accepting the responsibility for spending all the trust and bankrupting the account. Deposits are often more work than withdrawals, but they are investments in the future that produce sound and very rewarding results.

Most animal trainers have become champions of positive reinforcement and in doing so have evolved away from the use of force and aggression, the more traditional animal training tools that have been in use for thousands of years. Fortunately, negative reinforcement and punishment are slowly, often reluctantly, giving way to positive reinforcement in most animal training communities. The increased use of positive reinforcement has created opportunities that are beyond many people's imagination while at the same time creating better working environments for animals.

The scientific community has demonstrated with hundreds of species from cockroaches to whales that the use of aversives, such as in negative reinforcement and punishment training strategies, produce certain detrimental side effects. These side effects include: aggression, escape/avoidance, generalized fear of the environment, and apathy or generalized reduction in behavior. These side effects are not something that might happen once in a while. They are always there along side the aversives, waiting to jump into the mix and eat up the trust you have worked so hard to build.

Fighting the urge to use negative reinforcement and punishment is not always easy. Most people grow up in an environment where negative reinforcement and punishment were the tools that influenced their behavior. This cultural influence was, and still is, evident in a myriad of sources in everyone's lives. Parents, teachers, siblings, schoolmates, etc. all use a multitude of negative reinforcers (the threat of punishment) to force people to comply with wishes, rules and demands. They also punish people when they do not follow these rules or do not live up to certain expectations. Fear of punishment is a powerful motivator, but plagued with the detrimental side effects I mentioned above.

The most effective motivator is, and has always been, positive reinforcement. But, it takes more than positive reinforcement training to create world-class animal trainers. Many trainers work hard to learn the latest training techniques but still cannot reach their full potential as animal trainers. What might be missing is a healthy trust account in their relationship bank.

### **Positive Reinforcement**

Artistic animal trainers understand the power of positive reinforcement and use it effectively. It is not that they completely avoid negative reinforcement and punishment. It is inevitable that we all use negative reinforcement and punishment in our training relationships with our animals. Even something as simple as stepping in the direction of the door to stop an animal from moving that direction is punishment. The key is to understand that positive reinforcement is almost always the best training tool for the job, even when punishment or negative reinforcement may be easier and produce quicker results. Skilled animal trainers know that if they ever catch themselves stopping a behavior (punishment) they should immediately begin developing a plan for how to avoid using punishment in the future. Often this is accomplished by finding ways to use positive reinforcement to train a desirable behavior to replace the unwanted behavior.

The use of aversives in training is easy and quick, but associated with the detrimental side effects I mentioned earlier. Plus, an animal trained with negative reinforcement or punishment will only perform at the level necessary to avoid the aversives. Whereas an animal trained with positive reinforcement will look forward to the interactions with the trainer, will be more creative about how to earn the reinforcement and will experience far less stress than an animal trained with aversives.

Punishment is a poor training tool for many reasons, including: it is too often associated with retributions and revenge; it is too often associated with anger and aggression; it is all too familiar and often used absent-mindedly; it works, therefore it reinforces the person doing the punishing; doesn't tell an animal what it should do, only what it should not do. Punishment should only be used in environments rich with opportunities for the animal to earn positive reinforcement.

### **Team**

The best animal trainers understand the importance of working together as a team. They know they are part of a team of people who share in the responsibilities and the rewards of their work with the animals. This teamwork is as important as any relationship a trainer has with his or her animals. Plus, creating effective teams is surprisingly similar to the work they do with the animals they train.

The human animal is influenced by the same behavioral rules that apply to other animals. If you use negative reinforcement and punishment to motivate your coworkers you will likely see the detrimental side effects that I mentioned above. Think of these side effects with your staff in mind: aggression (verbal aggression, backstabbing, etc.), escape/avoidance (won't want to be around you), phobia (irrational fear of the work environment), and apathy or reduction in behavior (less motivated to work). The best you can do is use positive reinforcement to shape desirable behavior. For humans, the best reinforcer is not more money, shorter workdays, longer vacations, etc. It is recognition. As the saying goes, "If you really want to help someone succeed, catch them doing something right." A little recognition, especially when handed out in public or in front of peers, is an incredibly powerful training tool for many, if not most, humans.

The most trusting relationships with animals, as well as humans, are built on clear, honest communication. Successful animal trainers are very careful to help their animals understand exactly what they want them to do in order for them to earn reinforcement. However, most trainers rarely practice this level of communication with their staff. Some people need to work on their communication skills, some need to work on their honesty, and most need to work on both. It is sometimes difficult to be completely honest. I have told my staff that if they are honest, and their intentions are right, they cannot fail in their communications. I believe this to be true. I know others will not always like what I have to say, but, if I say what I believe, and do it in the kindest way I can, and my intentions are to help rather than to hurt, then I have done my part. It is then up to the other person to determine how they choose to take my communication. They can choose to be happy about it or not.

I believe you are the only one responsible for your position in life. No one, not your boss, your spouse, your teachers, your colleagues or your dog is responsible for making you happy. If you rely on other people to make you happy, you are destined to fail. Sure, other people can do or say things you don't like, but you have the power to decide how those things make you feel. If you don't like something, change it. If you can't change it, change the way you look at it. Find something good in it, or forget about it and go on with your day. Why would you give someone else the power to control your happiness? One reason could be the reinforcement you get from your friends when you complain about a situation, or another person. The "poor you's" and comforting hugs serve to reinforce the behavior of complaining and increase the likelihood that you will do it more. The big problem here is complaining doesn't solve the problem. Clear, honest communication solves problems, but it is a bit more difficult than complaining.

### **Final Thoughts on Training**

You get what you reinforce. The behavior you see in your animal is a product of your relationship and history with that animal. The best animal trainers take responsibility for their animals' behavior, both good and bad.

Animals live in the present. An animal's history is important, but it does not define who that animal is today or will be tomorrow. The past does not equal the future. No matter what has happened to an animal in the past, what happens today is the most important experience of its future life.

Proceed at the animal's pace. Talented animal trainers are the ones who recognize the pace that is most comfortable for the animal they are training. Often, this pace is much faster than trainers might expect. Animals are capable of learning behaviors in seconds and minutes. Some animal trainers expect it will take six months to teach a gorilla to accept an injection in its arm, and as a result, they often take that long to train it. Other trainers move ahead at the gorilla's pace and some might end up training the injection in a few days. My strategy is to move to the next approximation when the animal performs the current step without hesitation. Plus, you should try to move forward with each time you reinforce the animal. If you spend too much time at any one step, you can teach the animal to stay at that step. Animals are always learning, so if you are not teaching the animal to move forward, you are teaching it to stay still.

Repetition builds confidence. There is a lot to be said about magnitude reinforcement or jackpots. However, I believe the best strategy for building behavioral confidence is through repetition. If an animal is hesitant to perform a certain level of behavior, it may help to back up a step and take smaller approximations. These smaller, easier approximations can help build confidence and momentum faster than extraordinary amounts of food for a single performance of a behavior.

Lastly, the most artistic animal trainers understand their opportunity and obligation to provide the best care and management for the animals in their charge as well as the opportunities to influence inspire and empower others. In this relatively young and limited field of animal training, we are all artists in our own right. Our passions, our skills, our knowledge of training and of our animals are gifts that we can share with others. When we pass them on to other trainers we can improve their performance and ultimately the lives of the animals in their care. When we pass them on to the visitors to our facilities we can spark an interest that might inspire conservation action or even influence a whole new generation of conservation champions.

Special thanks to Susan Friedman, PhD., for her influence and guidance with some of the strategies shared in this paper.