

The AAZK Behavioral Husbandry Committee Presents

Training Tales...



Where you can share your training experiences!

“I Said “Exit Stage LEFT” You Idiot!” (Or, Is Your Cue Really Telling Your Subject What You Think It Is?)

By

Jason Pratte, Lead Keeper, Zoo Atlanta
AAZK Behavioral Husbandry Committee Member

The AAZK Animal Training Committee strives to support the mission of AAZK, Inc. by providing information and learning opportunities for animal care professionals to facilitate the use of operant conditioning and other training techniques, to achieve behavioral management goals and excellence in animal care.

This submission is a continuation of our ‘Training Tips’ series, as a way for trainers to review basic training terminology and methods to further sharpen their training skills. This month, we will be looking at choosing and establishing a cue, some of the common problems trainers may have experienced and how to resolve some of those issues.

Think back on training sessions you have participated in or observed. Did you ever notice times when the animal just wasn’t “getting” what it was the trainer was trying to teach them? Or that it takes 20 repeats of the cue to elicit the desired behavior? Or that your well-trained animal is asked for one behavior, but then often offers a different one? These might be issues related to the cue.

A cue, or conditioned stimulus, is the signal that a trainer chooses to indicate that they want the subject to perform a particular behavior. It can be anything that the subject you are working with can perceive. The most commonly used cues are verbal commands (auditory) and hand signals (visual), but trainers have used light, odors, touch, music, vibration, tool, etc. The list of possible cues is limited only by the trainer’s imagination, but based on physiology, animals may respond better to some cue stimuli than others. When establishing which cue is going to be associated with a desired behaviour, stop and think: is the cue *distinct*? Is it recognizable by the animal, from other cues being used by trainers, and from stimuli the animal is exposed to every day? For example, let’s say you want to train an okapi to come in from the exhibit when you ring a bell. You want the bell to be the cue that means “come into the barn,” but your okapi spend their day out on exhibit listening to the zoo train chug past, with the engineer ringing a bell randomly. The bell is likely going to lose effectiveness as a cue (if it ever works in this situation). The okapi would likely respond to sounds associated with the trainers themselves: doors opening, calling her along with the bell, etc. Be sure the cue is something unique, distinguishable from the environment and easily associated with the behavior you want to teach.

Likewise, ensure that the different cues you use remain distinct from one another. When I first began

working with the pandas at Zoo Atlanta several years ago, I began training them an “open mouth” behavior. I used the verbal cue “open” paired with my thumb and fingers being spread apart in front of their face. The training went well, though slower than I expected. I turned the behavior over to another keeper to help maintain it, and then we both began experiencing problems. We would



Training a giant panda to “open”. (Photo courtesy of the author)

ask for “open” and often get a paw placed on the mesh instead. We would get frustrated, and the pandas even more so. It was a new, inexperienced keeper, unfamiliar with the training program, who caught what was happening. She asked one day if I meant for the end of the “open” cue (fingers spread apart from thumb) to look like the cue for “paw” (the trainer’s hand presented in front of the panda as if we were telling them to “halt”). I stopped and looked at the cue from the bear’s perspective, and lo, she was right. To the bear, they looked almost identical, with the trainer presenting essentially an open hand to them. We changed the “open” cue to just the thumb and forefinger spreading apart, and within a few weeks the behaviors were being presented as asked.

If you are having obvious confusion or frustration demonstrated from your training subject, take a step back and examine your cues. Ask another keeper to watch your session to observe, specifically your cues and actions. Are you using two whistle blasts to signal something different from one blast? And what if the animal only hears one because of ambient noise? Or is not sure if it heard two or three? Keep the cue simple, within the animal’s perception, and distinct.

Now a bit about stimulus control. **Stimulus control** is when a stimulus (cue) increases the probability of a behavior occurring (conditioned response) because that behavior was historically strongly reinforced in the presence of the cue (AAZK/AZA, 2003: **Stimulus Control** – A behavior is said to be under stimulus control if it meets 3 conditions: 1) It is immediately offered following the S^D; 2) It is offered only when preceded by the correct S^D; 3) It is not offered in the presence of another S^D. [S^D = cue]). There are a lot of factors involved in stimulus control, but since they are well described by Karen Pryor in her book “Don’t Shoot the Dog” we’ll touch on just the most basic aspects here.

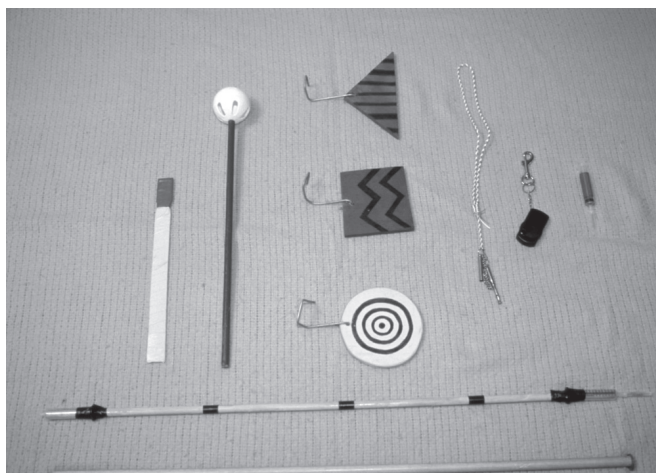
Allow me to illustrate some of how this works with another anecdote. There was this Sun Bear I worked with that had his medications put into a peanut butter sandwich twice daily. Due to the relatively medieval keeper area and lack of access to the animals, this sandwich was tossed to the bear in his moated exhibit. He would see a keeper coming with the sandwich (same schedule every day), and run to the front, precariously balancing on the edge waiting to try and catch it. Often as not, he would lunge and miss, sending his treat and meds bouncing off his nose into the moat. This is of course unacceptable (especially when you were then left with a bear trying to get INTO the moat for his sandwich). So I started randomly going outside and throwing raisins, working with a “sit” cue. I captured the behavior

of him sitting on exhibit, and threw him the treats while blowing a whistle and yelling “Good sit!”. After a few weeks the bear would sit when I asked, I could throw the sandwich, and it would land in front of the bear safely. A co-worker came up one day when I was feeling particularly proud of this routine, and remarked, “What’s the big deal, you didn’t teach the bear to sit”. No, I didn’t teach him to sit, I taught him to sit ON CUE for a reward. That is part of stimulus control.

There are some common problems with cue response (an aspect of stimulus control) that all trainers run into. Having to issue the cue repeatedly (“Boomer come. Come. No, now. Come. Come on boy. Come. Here. To me. Come...”). Or the existence of a huge delay between cue and behavior (“Oh it’s okay. He always takes 10 or 15 minutes to fetch the ring from the bottom of the pool.”) These are learned responses on the animal’s behalf. Somewhere along the way, they were taught that they didn’t have to “come” or “fetch” until they felt like it. As a trainer, you need to be sure your cue has been learned as “please execute this behavior when I ask.” Superstitious behaviors can fall into this category. Ever trained an animal that opens its mouth on cue, but always puts their paw up at the same time? It is likely that the trainer unintentionally shaped the open mouth behavior while the animal was holding up that paw.

A similar issue with cues arises in presentation. We discussed making them identifiable and distinct, but *where and when* the cues are presented can become a big deal. If you ONLY ever train an animal for shoulder injections in a squeeze area, your training is likely going to suffer major setbacks if the

animal has to be involuntarily restrained in the same squeeze (learned from an aversive situation). Or, if you want to be able to inject the animal while they are outside, in a shift hall, or some area that is not the squeeze, the animal might suddenly have no clue what you are asking, or regress several steps. Likewise if you only train an animal at 10 in the morning, good luck getting a response at 3 in the afternoon. Once you have associated a cue with a behavior, slowly and gently alter the environment/parameters. If you can present a specific cue and receive the



Various tools used to cue different behaviors in tigers.
(Photo courtesy of the author)

appropriate response in various locations, at various times, and under differing circumstances, then you are much closer to achieving stimulus control.

The cue is a very important part of the training process (yeah, I know, “we get it Sherlock”). Keep these basic parameters in mind when developing a training program, or when trying to re-examine an existing one. Modify your vocal commands, tools and physical signals (watch that body language! Clever Hans phenomenon anyone? Link: en.wikipedia.org/wiki/Clever_Hans). Are you using three colors of “stations” for an animal that may not distinguish color well? Does your one target stick mean up, follow, down, over, come, nose, eye, ear...? Create some new, distinct tools that the animal can learn to mean different things, and make training less confusing for them.

The cue is a learned signal and its effectiveness is based on how the trainer reacts to the animal’s behavior. Remember, most training problems are a result of communication problems between the

trainer and subject. If your cue is ineffective or could use some improvement, it becomes obvious in the behavior step. What exactly have you taught them that your cue means?

“You get what you reinforce, not what you want” (copyright 2002, Bob Bailey)

References:

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You are invited to submit material for the Taining Tales Column. Drawings or photos of training are encouraged. Contact Jay Pratte at jpratte@zoatlanta.org for more details or to submit an entry.