A Raven's Tale: Cues that Reduce Stress

By Sherri Lippman on 10/01/2013

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A note from Karen Pryor:

Sherri Lippman was an early adopter of clicker training. She is co-author and co-star, with Virginia Broitman, of the award-winning clicker training video, The How of Bow Wow! Sherri has been a presenter at ClickerExpo and at APDT.

While working in California at a wildlife rehabilitation center with a public display of educational animals, one of the challenges Sherri took on was the training of a long-term resident, a crippled raven that was fearful and unapproachable. The following account is, in my opinion, a dazzling example of ingenious behavioral management. Sherri taught the bird to recognize cues for necessary upcoming events, negative (netting the raven for veterinary care), harmless (cleaning and feeding), and positive (training). More to the point, she taught the staff and the many volunteers to present the cues reliably. Read on to see what happened.

WildCare welcome

In 2009, I went to work at WildCare in San Rafael, CA, a facility that provides wildlife rehabilitation as well as educational programs about conservation and wildlife. At WildCare, they keep a small collection of non-releasable animals that are used as ambassadors to the community. My job was to help develop a husbandry and enrichment training program for the resident animals, all based on clicker training. I also needed to train the animal keepers, who were nearly all volunteers.

At WildCare, there is a separate group of volunteers who care for the resident animals. Mary Pounder, education program specialist, heads up this group and was my boss at WildCare. Mary was the only person who knew anything about clicker training, and she was very supportive and helpful. Volunteer shifts run from 9 a.m. to 1 p.m. and from 1 p.m. to 5 p.m. daily. Each volunteer is assigned different animals and tasks, which means that the animals may be in contact with as many as fourteen different people a week

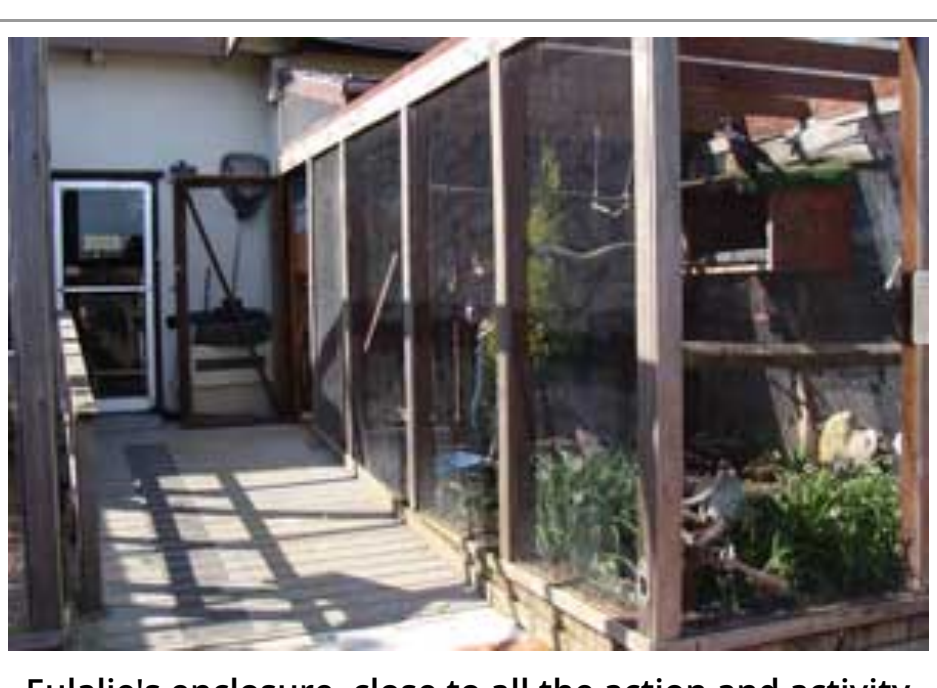
Enter Eulalie

Soon after I arrived at WildCare I met Eulalie, a raven alone in a large enclosure. She had been at the facility for eleven years, brought in as an adult with a wing injury that left her "minimally flighted." The raven she had lived with for seven years had been moved to another facility recently (as that cage-mate matured, the two birds had become incompatible).

Eulalie was often stressed and frightened by people. When anyone entered her cage, she would go to the top of a large box in her enclosure. There she would face, and peck at, the wall, and sometimes pant. This reaction occurred during most feedings and cleanings. Eulalie would not come down to eat until people had gone from her cage area. Eulalie would also go to the back of her cage or on top of her box whenever people came too close. The most frightening thing of all for Eulalie was when a keeper or someone from the medical staff came with a net, caught her, and brought her in for a weight check, a nail trim, or a physical. This traumatic capture would occur anywhere from once a month to once every few months.

The location of Eulalie's cage appeared unsuitable for her. The enclosure was next to the main door to the hospital where people came and went all day long and carried all sorts of items, including boxes, towels, and nets to catch other animals. Conversations would often take place right outside her cage. All of these disturbances seemed to have contributed to Eulalie's anxiety and stress.

Slow progress



Eulalie's enclosure, close to all the action and activity

When I started clicker training with Eulalie, I asked to take over all of her feeding and cleaning, as I thought the consistency would be a great benefit for her. After several weeks of training, I did see some improvement, but not nearly as much as I had expected. Eulalie still showed signs of high stress when anyone came into the enclosure, or too close to her cage door.

I reviewed what I was doing to see what could change and improve. I was not able to control the amount Eulalie was fed (and she was well fed). I tried every available type of food as a reward. What I chose as an enticing treat for Eulalie were superworms—the only thing that seemed interesting to her. For those of you who have never met a superworm, they are mealworms on steroids, about two inches long, and fat like a pencil—and they bite. They are hard to wrangle, don't stay in a training pouch, and often end up in your clothes and your hair. It was a new experience for me to try to use rewards that were constantly escaping!

To create the least possible stress for the bird, I decided to begin my training from the foyer of her enclosure. Each enclosure has a foyer with a door on either side to prevent accidents and escapes. The foyer gave me a place where I could reward Eulalie without entering her enclosure. From my place in the foyer I was able to push a superworm through the mesh fence onto a horizontal plank where Eulalie could retrieve it easily. Pushing the worm in from the foyer had the added advantage of having Eulalie come toward me in order to get her reward. This one step, shaping Eulalie to come down from her box and take a superworm pushed through the mesh, took a few weeks to accomplish.

I added a brick to the plank perch in Eulalie's cage, planning to use it in the future with the scale. I thought it would take her some time to get used to the brick, as ravens are known to be neophobic (afraid of new things or experiences). To my surprise, Eulalie was very interested in the brick and sat on it often. I decided to make the brick her station and I continued working through the mesh, rewarding her for stationing on her brick. Eulalie was making progress, but it still seemed exceedingly slow to me. She was learning to station, but she was still fearful and wary all the time, almost hyper-vigilant.

Re-evaluation time: too much stimulation, too little control

I thought I must be missing something, so I spent a week just observing Eulalie. I had the volunteers resume the cleaning and feeding so I could observe the interactions. I realized that Eulalie had very little predictability in her environment. From her point of view, a different person came each day to clean her cage and feed her. During the cleaning, some people stared at her and some talked to her. Each person moved about differently, many of them too quickly. Occasionally, and accidently, someone sprayed her with the water used to clean her cage! The person who came at feeding time was likely to be a different person than the cleaning person. Eulalie's food was placed in toys or boxes, a good enrichment activity for her, but it added a whole new dimension to the human behaviors, since the food had to be hidden and hung up all around the enclosure. Setting up the food, the feeding person could be bending, reaching, crawling, and staring—while talking to Eulalie simultaneously!

From Eulalie's point of view there was no way to tell who was coming into her cage, when they were coming, and what was going to happen once they arrived. What a stressful way to live!

The worst for Eulalie was when a keeper or med staff member came into the cage to chase her, grab her with a net, wrap her in a towel, and take her into the hospital for an examination. From Eulalie's point of view there was no way to tell who was coming into her cage, when they were coming, and what was going to happen once they arrived. What a stressful way to live!

Let's try some consistent cues

I realized what Eulalie needed most was predictability, but achieving that would be a challenge because of the number of different people working at the facility. Nevertheless, we needed a way to tell her that things were going to be different now from the way they had been in the past. The solution would be to provide Eulalie with signs or signals that would be predictable and clear.

Square sign on the door of Eulalie's cage indicates feeding!

I developed a set of three signs (visual cues) to be used as indicators of what would be happening: one for medical checkups/netting, one for training, and one for feeding and/or cleaning. These signs needed to be very simple and easy to replace if they got lost. For medical staff or anyone having to net Eulalie, I chose a white towel that would be hung on a hook outside her cage near the door. To indicate a training session, I used a 12" x 12" square of unpainted plywood to hang in the foyer; the same square would be hung on the entrance door of Eulalie's cage to indicate feeding or cleaning. Permanent hooks were installed where these signals would hang to make things as easy as possible for staff and volunteers who interacted with Eulalie.

To increase consistency even more, I scheduled cage cleaning time for 10:00-11:00 a.m. and feeding time for 2:00 p.m. I also adjusted the feeding procedure. A maximum of eight different objects (food holders), one of them a paper item, were placed on Eulalie's plank perch within easy reach; the keeper needed to place all the items without talking to or staring at the bird. After that, the keeper was instructed to sit down in the doorway and wait quietly for up to 15 minutes for Eulalie to venture toward the paper item and start to eat. If she did not go to the paper and start to eat, the food was removed and the keeper left. The keeper would try again in 30 minutes.

To start this new routine, I once again became Eulalie's sole keeper. I only had to leave after waiting 15 minutes two times before Eulalie figured out the routine. She would come down promptly and dig into her food within seconds of me placing the food objects. After a month, Eulalie easily transitioned to this routine with other keepers. Every staff member and volunteer agreed happily to go along with the new protocols; they all worked to make things better for Eulalie.

The day after the protocols were put in place, Eulalie needed a medical checkup, involving the dreaded netting and capture. Medical staff members hung a white towel up on the hook outside her cage. The check-up revealed a bacterial infection requiring 14 days of treatment by injection. Each day of treatment would require Eulalie to be captured. "Oh no," I thought. "There goes the training for at least two or three weeks." Anytime Eulalie had been netted in the past she had refused to come down for food for at least a day or two. I decided to stick with her training and just see what happened.

The med staff hung a white towel every time they caught and medicated Eulalie. For the first three days of treatment, it would be 3-5 hours before Eulalie would come down to her station. On day four, she came down within an hour. She continued to improve daily, and by day seven she was down to her brick within 10 minutes! On the eighth day, Eulalie's behavior had returned to the level she had been at before her medical condition was diagnosed; she was coming to her station within a minute or two. On the eleventh day, the medical staff told me that as soon as the towel went up, Eulalie started running around and was much more difficult to catch. This behavior continued for the next three days. It had taken Eulalie 11 days to make the connection between the white towel and being captured.

Note that hanging the white towel is intended as an intermediate step to inform Eulalie that she will be netted. Since we do not want her to become more difficult to catch, the future training plan involves training Eulalie to go into a crate for transport. When she can do that, the white towel will no longer be necessary.

A relaxed raven

Eulalie stationed on her brick

It has now been five months since we started using the three predictor signs with Eulalie. She has become a much calmer and more social bird. We no longer see her panting, going to the top of her box, and pecking the wall. She is using more of her cage area and she is often seen on the front perch closer to the public. When people come up to her cage near the door, she usually stays on her perch.

One of the most interesting changes I have noted is her reaction to the sight of the net. Before using the predictor signs, any time a net was visible to her Eulalie would hide, and often would not come down for hours. In a rehabilitation facility, nets are carried around and used regularly, so that created many opportunities for Eulalie to be afraid. Now she doesn't even appear to notice the nets! Staff members walk by her cage carrying a net and Eulalie shows no reaction at all. Eulalie knows that if the towel is not up, the net is not for her. I was sure I would have to go through a long desensitization process for net sightings, but that was not the case at all.

Eulalie has been in for three medical rechecks with no backsliding in her behavior She has also accepted new trainers and keepers with very little backsliding in her skills. I was also able to use the brick as a station on a scale in order to record her weekly weights, eliminating the need for capture. Finally, I transitioned to working inside the cage and delivering the super worms to within one inch of Eulalie.

Cues, now calm

Eulalie's life is so much better now. I believe it was the lack of predictability that caused the stress and anxiety for her. My work with Eulalie highlighted the importance of predictor signs (visual cues) and reminded me that all animals, both captive and wild, use signals in their environment to predict change. Signs and signals picked up by all of an animal's senses foretell what happens next. The sound of a feed cart, the jangling of keys, the opening and closing of cages or doors, lights going on or off, the sight of a net or a keeper or a vet's white coat, the time of day, and the smell of food are just a few of many examples of sensed signs that become familiar and tell a story to the animal.

Since signaling is innate to animals, as trainers, keepers, and pet owners we can and should provide as much information as possible to the animals in our care. (I wish I had thought more about this when I was living on a farm. It would have really helped with my horses if I had used signs for feeding and training. Recently I did use signs to help my very sensitive cat overcome a fear of the vacuum!)

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For Eulalie and for all of the humans at WildCare, the training with three signs worked wonderfully. The result was less stress for Eulalie, lots of training progress, a happier environment, and more positive relationships for Eulalie and all of us who care for her.

Try this at home: more from Karen Pryor

Animals pick up cues from the environment all the time, in nature and in our homes. How could you use Sherri's cue tactic in your own situations?

Here's a common problem:

You sometimes need to put the animal in its crate (or kennel or stall or cage) and it will go in, but as soon as you try to shut the door, it dashes out. And then won't go in again.

Try this:

With the door wide open, reward the animal in the crate. Now say "door." Touch the door, click, remove hand, treat. Repeat. Then say "door," move the door one inch, click and treat, and move the door back to its wide-open position. By the second or third session, you can probably move the door all the way shut and then wide open again, after the cue "door." (If the animal does burst through the half-open door, that ends that particular session, of course. Next time, back up a few steps, and progress in smaller increments.)

You can soon add latching the door, and leaving the door shut for somewhat longer lengths of time. The predictability of the door cue no longer means any movement of the door is the last chance for freedom, so the animal accepts the confinement calmly instead of building up more and more stress.

It's the same situation with toddlers getting haircuts, or clipping horses, or cats afraid of the vacuum cleaner. Building a predictor cue can be a lot faster than desensitization ("Oh, he'll get used to it") or counter conditioning (feeding in the crate, say). Sherri's raven had been exposed to both those procedures for, let's see, eleven years, with no improvement at all.

Karen Pryor

About the author

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