

"A Welcome Discussion Among Colleagues About Weight Management"

Steve Martin, CPBT-KA
Past President, IAATE
President, Natural Encounters, Inc.

There is an interesting and exciting buzz circulating through our field these days. It involves best practices, new technologies, and advanced ways of thinking about how we manage and train our birds. The genesis of this groundswell of discussions was at our recent international conference in Dallas. The true spirit of IAATE and the goals of our conference were realized as people discussed new philosophies and challenged each other to test the boundaries and discover new ways to provide innovative training methods. This excitement and enthusiasm speaks to the core of our organization. There was another core principal that was evident throughout these important discussions: the health and welfare of our birds.

Our conference this year generated some incredibly important papers. Two papers that inspired the most discussion were "Free Flying Parrots in the Brazilian Amazon" by Dillon Horger, and "Weight Management in Animal Training: Pitfalls, Ethical Considerations and Alternative Options" by Barbara Heidenreich. These outstanding papers created excitement, plenty of self-evaluation, some knee-jerk reactions, a little defensive posturing, and a bit of finger wagging in our group. The discussions were healthy in that they encouraged people to explore uncharted waters, and let their minds go where they may have never gone before. This is truly what IAATE is all about.

These papers, a round table discussion, and plenty of passionate hospitality suite chatter focused on the important issues of food and weight management. Some of these discussions seemed to take on a life of their own and wandered into territory that caused your board of directors to have some serious conversations about the safety of some of the practices being discussed. These discussions led me to write this article to help articulate some of the key points associated with weight management and address some important ambiguities.

Weight Management

Concurrent to weight management were the discussions of using secondary reinforcers instead of primary reinforcers to motivate birds in our shows. (I'll talk about secondary reinforcers a bit later in this article). One person asked what toys she should get to motivate her hawk to work in the show when it was on feed-up. Another person talked about getting rid of the scale all together. Conversations got a little out of hand, and your board of directors got a bit concerned, especially when some conversations started to suggest weight management was evil or something less than a tool we use to promote good welfare for our birds.

IAATE published a Position Statement on Food and Weight Management that describes in detail what our organization recommends as best practices in this area. We recommend everyone who trains birds should carefully read this Position Statement to get an accurate understanding of the important concepts discussed therein. You can find the position statement at:
http://www.iaate.org/pdfs/PositionStatement_FoodWeightManagement.pdf.

Food management involves adjusting the way we feed animals to increase motivation to perform behaviors. For instance, we can provide unlimited access to low value food items like pellets, fruits, vegetables, etc., for a parrot and use high value food items like nuts and seeds for training. We can also pull food from an animal's cage in the evening and then train the bird in the morning using its breakfast as reinforcers for behavior. With weight management we manipulate the diet to reduce the weight of an animal to create motivation. We can also reduce the diet of an obese animal to keep the animal in a more healthy weight range. With weight management our goal is to create motivation while at the same time keeping the bird at a healthy weight level, which is generally at or near its ad lib, or normal body weight.

Weight management is a tool to monitor the health of the birds in our care, whether they are in training or not. It helps trainers gain important information that is not possible without the scale. One of the first signs of illness in a bird is loss of weight. If the trainer is not weighing the bird and the food intake, it may be days before overt, observable symptoms of illness appear. Weighing the bird also alerts us to obesity, which has the potential to be an increasing problem as trainers improve their relationships with their birds, adjust their antecedent arrangement, and refine their reinforcement strategies to promote birds working in shows at higher and higher weights. Melinda Mendolusky, Secretary of the IAATE said, "I've gone to our vet a couple of times about diet/weight concerns and he is always very helpful. We are lucky at Lowry to have a great relationship with Dr. Ball and I realize that not everyone has that. However, it is an important piece that I believe people should consider when weight managing a bird."

There was some outstanding discussion about how we manage the diets and weights of the birds in our programs. Both Barbara and Dillon's papers mentioned working birds using secondary reinforcers instead of food. Dillon worked with several young, free flight parrots on a project in Brazil using mostly social reinforcers to motivate the birds to fly to him. During the ten months he worked with the birds he did not use a scale to monitor their weights or even weigh out their diets. Dillon worked with young parrots that were recently weaned and not adult birds like the ones most people use in their shows. Dillon's exceptional skills and years of experience also helped insure that his training and management practices kept the birds healthy and safe.

Barbara listed several examples where people train birds without weight management. It is important to note that behavior is a study of one (as I have heard Dr. Susan Friedman say so many times). The examples in Barbara's paper, and Dillon's experience with the young parrots in Brazil, do not represent the same conditions under which most of us work with the birds in our shows.

The examples in Barbara's paper also do not directly relate to others in our field. Chris Shank has established a very special relationship with her birds over the course of several years that allows her to fly the birds free around her property without any weight management. Other parrot trainers like Hillary Hankey (who works with Dillon) and Wendy Craig have outstanding training skills and relationships with their parrots that they fly free without weight management. These are examples of extraordinary people in uncommon situations. The conditions in which they fly their birds do not directly apply to the trainer who performs two shows every day. I suspect if any of the parrots mentioned above were to perform in two shows each day, the bird's recall behavior would slow to the point that other birds, especially the raptors, would be eliminated from the show.

Gareth Morgan, your IAATE International Board Member, said: "What we can do with a macaw might not be transferable to a raptor. I am always looking at improving what we do and am open to new ideas, so we shouldn't dismiss the ideas but should think of it as a goal or direction to head but more information is needed." Gareth has worked with several storks in his show using no weight or food management at all in their first year. But, even with his expert skills he still had to do a bit of management in the second year. At our facility we work our young macaws, cranes, hornbills and other birds without any weight or food management when they are young. But, we generally find that there comes a time when we need to adjust their feeding a bit to work them in the shows, or just keep them in the county. The President of IAATE, Miguel Santos, said; "I'm sure most of us have examples of birds in our collection, that are / were managed without the use of food / weight management, but they occur in a specific environment and circumstances that might not be generalized to other situations."

A very important point made in one roundtable discussion and in several group discussions was the need to reduce our reliance on the scale to determine working weights meant to represent motivation in our birds. The bird's behavior should determine the weight at which a bird works not a number on the scale that continues in trainers' records from one day to the next. Skilled trainers are always watching the behavior of their birds to determine a healthy working weight. However, some less skilled trainers keep the bird at a specific working weight all year long. John Scott's paper "Weight Fluctuations in Free Flight Birds," tracked seasonal weight fluctuations of 7% to 10% in several birds over the course of several years. Trainers who keep birds at one weight all year long may compromise the welfare of their birds by not allowing the birds weights to change with the seasons like their wild counterparts. Ryan VanZant, board member of IAATE said: "For me personally fluctuations in weight is good for the birds and their psyche,

because that is what their whole being tells them life is like.” Unfortunately, some people misunderstood the key points from the presentations and the discussion came around to getting rid of the scales all together.

Helen Dishaw is the Vice President of IAATE and had this to say about weighing birds in her collection: “Although I weigh my birds every day, I don't put a lot of reliance on weight numbers for managing their diets - we don't even have "target weight ranges" for most of the birds at Tracy Aviary, we base diets on behavioral performance, and circumstances surrounding said performance, from the day before. However, on occasion weight management is necessary for health reasons - I've got two raptors (a falcon and a hawk) that, if left to their own devices with food, both get unhealthily obese - I've had the vet TELL me I have to take weight off them and 10% off that number on the scale when they've got sub-cutaneous fat layers still doesn't necessarily equal healthy/fit bird!

When I asked Dillon about the value of the scale here is how he responded, “The scale is an indispensable data-collection tool for managing any captive bird, free-flight or otherwise. The healthy weight of an animal, appetitive drive, and motivation to perform behaviors is a combination of a complex web of establishing operations influenced by environmental antecedents, competing reinforcers, physiology, species-specific natural history, and past learning experiences— among other factors. By accurately establishing an animal's ad-lib weight, the trainer can monitor natural body condition fluctuations, safely evaluate competing reinforcers, and accurately observe daily food intake to ensure that the animal is receiving and ingesting a healthy diet while detecting possible medical issues at the earliest sign.” IAATE board member Erin Katzner said: “When I go to the doctor, one of the first things she does is weigh me to see if there have been any unusual changes in my weight. My doctor places high value in my weight management to ensure that I do not develop weight-related illness such as high cholesterol or diabetes. I exercise and monitor my caloric intake every single day. Not all humans do this (and I often slack too), but we all know we should. If we know that it's important for us to do this for ourselves, why isn't it important for us to do this for our birds?”

Motivation

There was much talk of motivation, hunger, and deprivation in association with the training of our animals. How can we get our birds to perform in our free flight shows without using food or weight management? Barbara was a strong promoter of secondary reinforcers and encouraged trainers to test the limits and see what their efforts produce. There were a lot of wide-eyed, inspired trainers eager to take on the challenge and explore the new horizons. There were also several of us, although inspired by the challenge, were more cautious and a bit nervous about the potential for things to go wrong. And, when some birds are fed up and expected to work in shows, things are likely to go wrong.

In my career I have probably trained over 1,000 free-flight birds. Until two months ago I had lost exactly one bird in my entire life. Recently we have been training

several young macaws to fly outside. When we train young birds we do it without food or weight management until we find out they need a bit of adjustment to work into the shows. We do this with virtually all of the species of birds we raise for our shows. All of the young macaws we were training had full bowls of pellets. We reinforced their behaviors with peanuts and other high value reinforcers, along with secondary reinforcers including social, enrichment (tangible) and tactile reinforcers. One day two young military macaws, Rembrandt and da Vinci, flew out over the swamp next to our facility. They landed deep in the swamp and did not come back. We were close to them, but they weren't motivated to come back to us even though we hand-raised them from small babies and they were within a distance that they could hear us. They slept in the swamp overnight. This is not the first time one of our young macaws slept out overnight. But, it was more significant this time. The following morning they were not where we left them the night before. We searched all day and finally in the afternoon we found da Vinci about a mile away. We never found Rembrandt. The following week a Blue and Yellow Macaw named Charlie also flew into the swamp and landed about 200 yards away. Even though he could see us, and had good skills to fly down to us, he was not motivated to return and slept out that night. He didn't call back when we called to him at sunup, and after searching most of the day, one of our trainers found his body deep in the swamp. He had been killed and eaten by an owl. We suspect that's what happened to Rembrandt as well.

My responsibility to the birds in my care includes protecting them from harm. If we had flown the young macaws before they had eaten in the morning, I suspect all of those birds would have come down to us when we called them. But, the food they had eaten before we flew them decreased their motivation to return to us. The motivation to sit in the trees out-competed with the motivation to return to us for food, social, enrichment and all other reinforcers we had to offer. We now take the food away from our young macaws at 5 pm and work the birds in the morning before they eat breakfast. This is the same feeding schedule as their wild counterparts. Macaws sleep in trees that are usually far from their forage sites. They have no food over night and fly to acquire food in the morning. It's our Cultural Fog (a great saying I learned from Dr. Susan Friedman) that obscures better judgment and encourages some people to think that parrots should have food in front of them all the time.

Having food in front of any animal at all times is simply not natural. Few animals in the wild have constant access to unlimited food and water. If they had food and water in front of them all the time, they may be deprived of one of the most basic behaviors common to all living animals; food-seeking behavior. Why would a parrot leave a tree if all the food and water it wanted were abundant in that tree? Why would a hawk fly if its nest had a constant supply of mice? How would those birds maintain a healthy life if they never had to spend energy to acquire their food? Birds, like all animals, are built to use their senses, adaptations, and behavior to acquire food.

In Barbara's paper she presented a thorough discussion of the concept of hunger and described behaviors associated with various levels of hunger. She said we should keep our birds from getting hungry and that freedom from hunger is the first of The Five Freedoms as described by the Animal Welfare Council. Those five freedoms are, 1) Freedom from Hunger and Thirst, 2) Freedom from Discomfort, 3) Freedom From Pain, Injury or Disease, 4) Freedom to Express Normal Behavior, 4) Freedom From Fear and Distress. Understanding that hunger can be considered on a continuum from a feeling of wanting to eat on one end to consistent malnutrition, even starvation on the other. Of course, we should all avoid any level of hunger that compromises the health and welfare of a bird. However, there was a mention that we should never take food away from our parrots at any time so they never get hungry. Working parrots with pellets, or fruits and vegetables in their bowls at all times and using high value reinforcers such as nuts for training is a concept that works well for some individual parrots. However, If we were to provide unlimited food access to some other parrots, and most other species of birds in our shows, we may be denying them two of the Freedoms listed above; Freedom from Pain, Injury or Disease when they fly away, and Freedom to Express Normal Behavior when we provide so much food that they overeat resulting in inactivity, sitting in cages instead of flying in the show, or when their behavior is so unreliable that trainers retire them from shows.

The point was made that bird shows are the only field where people withhold food to create motivation for animals to perform and that mammals are not managed in that way. I am sure marine mammal shows would quickly close if the trainers fed the animals all the food they could eat before a show. Even zoo animals would fail to return to their indoor holding areas if food was presented to them in the exhibits, or they would fail to go onto exhibit if their food was always available to them inside. Almost all animals experience food deprivation in some form or another. All animals under human care use their behavior to acquire food that they have been deprived of for some amount of time. All wild animals are deprived of food for some period of time and they use their behavior to acquire that food. To be deprived of food for intervals throughout the day is not tantamount to starvation, it is a very natural process that all animals have evolved to understand.

At Natural Encounters, Inc., we have a system of checks and balances when it comes to motivating our birds to perform in shows and return to us when we cue the behavior. We consider the following antecedent influences on motivation before ever adjusting weights or diets:

Relationship – We work to establish a strong relationship between bird and trainer so that the bird will choose to be near the trainer even when not motivated by food. If the bird is the least bit hesitant to work with a trainer we build their relationship through repetition of positive reinforcement experiences.

Confidence and ability – We insure that the bird has the ability to perform the behavior we ask as demonstrated by its steady action without hesitation when

performing the behavior. If an animal hesitates in performance of a behavior we relax our criteria and go back in approximations to build fluency through behavioral momentum.

Past experience – Past experiences are antecedents for current behavior. We work hard to insure that all experiences with behaviors and conditions are associated with positive reinforcement. If a bird has had punishing experiences in certain conditions we build trust and fluent behavior through repetitions of positive reinforcement.

Environmental influences – We can control some, but not all, of the antecedents that are functionally related to a behavior. By minimizing the distractions to the best of our ability we help create an environment that is more conducive to the animal performing the behavior.

Food and weight management – Only after we have evaluated and adjusted the antecedent influences mentioned above do we consider adjusting the feeding or weight of the bird. To keep the bird healthy and safe a small reduction in weight is often required. Our policy is to work our birds as close to ad lib weight as possible. Ad lib weight is the weight a bird achieves after unlimited access to food over a period of time. When a bird works in a show for the summer and is then fed up, or provided unlimited access to food, it will usually eat an extraordinary amount of food and gain a significant amount of weight. However, after a period of time, which is different for every bird but generally between one week and a month, the bird will generally begin eating less food and its weight will drop to a more natural weight for that bird. However, it is always best to monitor the bird's weight to insure it is not obese. If a bird we are working drops to 10% of its ad lib weight, our policy is to reevaluate our training plan, trainers working with the birds, and the birds themselves. At this time, we sometimes find that some birds are simply not the right tool for the job and are retired from the training program.

Secondary Reinforcers

The discussion about replacing primary reinforcers with secondary reinforcers to train our free-flight birds was interesting with many facets to consider carefully. Just like primary reinforcers, secondary reinforcers also gain or retain their strength as a result of some motivating operation, which is most often some degree of deprivation. If a bird has unlimited access to a toy, the reinforcing value of that toy will usually decrease. If the bird is deprived of the toy for a period of time, the reinforcing value of the toy increases. Therefore, if you want to fly a bird free outside and use the toy as a secondary reinforcer to motivate the bird to return, you may need to withhold access to that toy to provide a level of motivation strong enough for the bird to return to you in order to access the toy. The same holds true for all of secondary reinforcers you may use, including social reinforcers. However, some things in life are free and social attention may be one of those things that we don't want to put into deficit in order to strengthen as a reinforcer. Plus, there are countless other reinforcers in the environment, like tree branches to chew,

interesting views, and the very act of flying that may outcompete with the secondary reinforcers you have to offer. Using secondary reinforcers for free-flying birds is a gamble at best and hedging your bet by strengthening the value of the secondary reinforcer with a bit of deprivation is good move. Deprivation at some level leads to desire whereas abundance leads to indifference.

Pet owners and animal trainers have used secondary reinforcers with their birds for years. But, I have never heard of anyone flying birds free in multiple shows per day using only secondary reinforcers and I suggest it would be dangerous to do so. In her paper "Managing the Deliverance of Food to Create Motivation," Barbara Heidenreich states: "Without diminishing the value of secondary reinforcers, it is important to recognize that using food is a valid training tool. Unfortunately in some training circles, using food to train has been viewed as failure on the part of the trainer. ... Knowing that food is a naturally occurring reinforcement for behavior it becomes difficult to perceive the use of food in a training situation as failure." It's possible that Barbara's thoughts on this subject have changed since she wrote this. We all change our opinions and methods as we grow in our field. However, her remarks above are important for trainers to consider.

Managing food is one of the most reliable methods of creating motivation in the birds we train. But, its not as easy as reducing the food and dropping a bird's weight. Effective weight management has the welfare of the bird as the primary goal. The AZA Animal Welfare Committee defines Animal Welfare as "An animal's collective physical, mental, and emotional states over a period of time, and is measurable on a continuum from good to poor. An animal typically experiences good welfare when healthy, comfortable, well-nourished, safe, able to develop and express species-typical relationships, behaviors, and cognitive abilities, and not suffering from unpleasant states such as pain, fear, or distress." To insure we provide the best welfare possible we need to weigh our birds regularly and work them at the most healthful weights possible.

Conclusion

IAATE was founded on the idea of sharing information to advance the skills of people in our industry and provide the best management and training for the birds in our care. Sharing new ideas is the cornerstone of our conferences and inspiring attendees to improve what they do is our goal. Barbara and Dillon's papers were just two of the outstanding presentations that moved the attendees at our conference to rethink what they do and continue the never-ending search for better ways to provide increased welfare for our birds while at the same time motivating them to perform in our shows so we can pursue our other goal of inspiring caring and conservation action in guests at our shows. As experts in our field we are obligated to continue to improve what we do. Susan Friedman once said to me "if you hear me teaching exactly the same information ten years from now, I've stopped learning and growing; that's when you take my expert card out of my wallet and throw it in the trash." Given our attraction to novelty and innovative approaches, let's make

sure we proceed with caution so that our exploration is never at the expense of the animals in our care.