

## **But What Does it Look Like?**

### *Using Observable Phenomena to Interpret Behavior and Solve Training Challenges*

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#### **Abstract**

Animal training utilizes ideas from various branches of science, including animal behavior, behavior analysis and cognitive psychology. By definition, science deals with describing physical phenomena and the environment in measurable terms. As trainers, we are encouraged to read and interpret our animals' actions, and even go as far as to try to figure out what the animal is thinking. However, this can lead to trainers using terms that may seem like clear descriptors, but are actually open to interpretation by others, and difficult to operationally define, which in turn can often make it more difficult to determine the next step in the training plan. This paper will explore how, by concentrating on only the behaviors we actually observe in our training, and by using measurable, observable behavioral terminology, we can greatly improve communication among staff members, and empower the trainers to approach their training challenges with more effective tools.

#### **Introduction and Historical Perspective**

I have heard training described as an art. I have heard it called a science. I have also heard that it is both at the same time. Whatever camp you may sit in, I doubt anyone can argue that training strongly relies on scientific principles. The field of animal training as we know it in zoos and aquariums was built from behavior science. We look back on the work of figures such as Thorndike, Pavlov and Skinner for guidance in defining what it is we are doing. As trainers, we routinely use terms like operant conditioning, extinction, and schedules of reinforcement. We read textbooks and attend workshops to learn how to apply these terms.

If we read carefully enough, we also find a historical struggle in behavioral science to measure things like thought and emotion. One of the earliest works in comparative psychology is *Animal Intelligence* by Georges Romanes (1882), which attempted to define just that. In his work, he makes reference to mental abilities and processes but uses various feelings, such as jealousy, to illustrate some of these processes. The response from the rest of the psychological field was one of backlash, and spurred a movement that led to the improvement of scientific controls and interpretation of data. (McFarland, 1999) Later studies showed much more discipline in defining relevant information. Thorndike's puzzle box experiments were praised because he "showed strict avoidance of anthropomorphic interpretation of the behavior he observed." (Domjam, 2003) David McFarland describes the behaviorist's view in this way: "Psychology is the study of behavior itself, rather than the mental events. In its [strongest] form, behaviorism rejects all reference to inner processes in the explanation of behavior." (McFarland, 1999) Why, then, if we are truly using science to train our animals, do we consistently try, whether consciously or not, to get inside the animals' heads? More importantly, is it helping us, or merely making our jobs more challenging than they need to be, by leading us to misinterpret the problem, and making our end goal more difficult to identify?

#### **Some Definitions, Quotes, and How They Apply to Animal Training**

Susan Friedman PhD stated in her paper *Straight Talk About Parrot Behavior* that "Science employs methods of systematic observation of measurable phenomena" and "Science seeks explanations that are testable."

Using these guidelines, we can ask ourselves some questions that can help get us on the right track. How does the way we look at behavior fit in with "systematic observations of measurable phenomena?" What, then, is behavior? Also, how can we test if the animal's behavior has changed, or if we have met a particular training goal?

First, let us look at the scientific definition of behavior.

Behavior: Anything a person or animal does that can be measured. (Reber, 1995)

Paul Chance, PhD adds this: “In practice, the term usually refers to publicly observable overt behavior. However, behavior that is available only to the person performing it (such as thinking) may be included if it can be reliably measured.” (Chance, 2003) In other words, a behavior must be something that is operationally defined and so is recognizable, observable, and must possess some quality that makes it easy to quantify. To truly know if a behavior is being elicited by stimulus, we need to define what that particular behavior is. If this is the case, the behavior should not be open to interpretation by any of the observers. In theory, the observers would all see the same thing. A behavior could, then, easily be a head shake, a specific vocalization, or a raising of the eyebrows. Can it be jealousy, stubbornness, or hatred? In other words, can thoughts or emotions be behaviors? According to the guidelines we have looked at, they can, but only if we can operationally define these terms in such a way that we can quantify them, if all the observers would be able to recognize them by these operational definitions, and if we can test these observations.

In most cases we can argue that mental processes are behavior. There are even laboratory methods for measuring things like thoughts and emotion (e.g. neuron activity, change in heart rate, etc.) but the problem comes when we go ahead and try to label what the thought or emotion is. Actually, there are at least 3 problems.

First, we don't tend to have these laboratory-based methods of measuring thought available to us in our institutions. Even if we did, “physiological manifestations of emotion occur in many animals, but this does not mean that animals experience emotion in the way that humans do.” (McFarland, 1999) In the same way the animals might experience emotion differently, observers might observe it differently as well. What one trainer may see as aggression, another might see as fear, while yet another might see it as hunger. If an animal consistently tries to bite us, is it because he “hates” us, or could there be another option? For example, could the behavior possibly have been reinforced, and is now being offered repeatedly by the animal to earn that reinforcement?

Second, even if all of the observers saw the same emotion or thought, when we go ahead and apply a thought or emotional label we are really just making an assumption as to what the animal is thinking based on some other behavior we are seeing. Sometimes we do it because it is easy and comfortable. This pitfall also leads us to the dreaded “A-word;” anthropomorphism, or what Ken Ramirez calls “A trainer's biggest stumbling block.” (Ramirez, 1999) Anthropomorphism encourages, and justifies us in thinking for the animal, when in reality, we should be training behaviors, not thoughts. It also allows us to make excuses for our animals and their responses. We may often find ourselves reinforcing behaviors that are below criteria, because of an excuse we made.

The other problem with labels is that we limit ourselves in the ability we have to change the behavior we are seeing. For example, if an animal is “stubborn” or “lazy,” it may be difficult to know how to go about changing that. How will we know when he is no longer stubborn? How do we measure that? However, if the animal is simply slow to respond, or is refusing to perform a specific behavior on cue, we have a clear goal to achieve in order to solve this particular training problem. We can look in our tool bags for the tools that can help us speed up his response time, or we can put together a plan to reshape the behavior that he is no longer performing. We will be able to easily measure whether the animal is now responding quickly or performing a cued behavior.

## **Conclusion**

So why do we do it? Why do we apply labels to behavior instead of just acknowledging the specific behavior we are observing?

Some may say that it is because we are human. The labels we assign and the conclusions we jump to are ones that reflect the way humans might think or feel in that particular situation. We identify with the labels, and understand them, which makes them convenient. As a result, we become comfortable with these labels.

Some may say it is just using common sense. The problem with common sense is it often focuses more on the common part, and less on the sense. As Dr. Friedman said, “Common sense maintains the status quo so we can

continue to do what we know best, rather than seeking out the best we can do.” It is a use of anecdotal evidence; a useful way to develop leads, but only that. Common sense and anecdotes do not, on their own, lead us to a scientifically based, clear solution.

So how do we avoid it? There are some easy ways to examine whether we are looking at the behavior.

- The simplest way, would simply be to use the verb “to do” when asking yourself questions about the animals’ behavior. What is the animal doing? When I gave him this cue, what did he do?
- If that still does not give a clear enough picture of what actually happened, I like to ask “What does that look like?” I often ask this when a fellow trainer relates a story to me and gives a behavioral description that I cannot interpret clearly enough to feel confident that I know exactly what was going on.
- Another important component is whether we are looking at the environment, and how it contributes to the behavior we are seeing. If the entire process is simply taking place in the animal’s head, there is little we can modify in order to see a more desirable behavior from the animal.

Here is a hypothetical conversation between two trainers.

**A:** “That animal hates me.” (Emotional assumption)

**B:** “What do you mean by that? What was he doing?”

**A:** “He tries to kill me when I walk by the cage.” (Thinking for the animal)

**B:** “Kill you? What does that look like?”

**A:** “Every time I walk by the cage, he runs to the front, growls, and hits the door with his paw. (A behavior we can visualize. It still may not be the whole story, but it states observable behavior, takes into account the animal’s environment and is something we can now work with.)

In this example, The “behaviors” of hating the trainer, or trying to kill the trainer would be hard to modify, and test in the first place, but the behavior of running at the front of the cage or pawing at the trainer could be modified, for example by training incompatible behaviors such as stationing in the back of the cage or lying down when the trainer is present in the environment. These incompatible behaviors could be easily observed, which would allow us to measure whether or not the animal was still performing the undesired behavior of running and pawing at the cage front. In other words, the behavior that led to the trainer’s conclusion in the first place can be modified, which is the real measure of success.

Does this mean the animal actually hated the trainer in the first place, or learned to no longer hate him? We have no idea. Most importantly, it does not really matter. When we simply define the behavior we are seeing, (What does it look like?) we can avoid hazards that lead to misinterpretation of the real problem, and as a result, a decreased inability to solve the real issue. We can also avoid limiting ourselves in being able to solve the training problem, by being able to now ask “What do we want it to look like?” If we can answer both of these questions, we then empower ourselves to more easily and successfully interpret and solve our behavioral and training issues.

## References

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