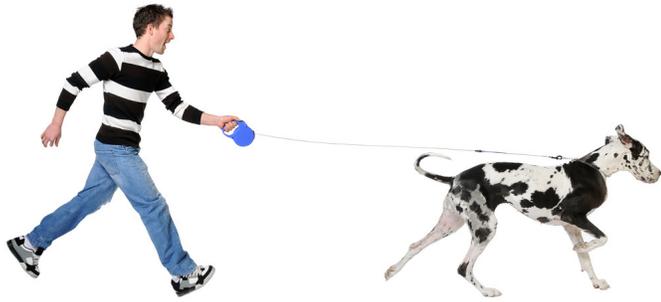


On Behavior

Editor Terry Long, CPDT-KA



Standing at the Intersection: Understanding Clients and Reactive Pet Dogs

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Before you begin reading this article, take a moment to think about your favorite song in high school. You might reminisce about some of the memories associated with that song. Ahh...now, take some time to think about how pleasing it is to eat your favorite meal when you've been especially hungry. Yum. Okay, if thinking of these two things put you in a good state of mind, you've just experienced classical conditioning¹ first hand and, hopefully, you are primed for a more in-depth discussion of this fascinating topic.¹

The purpose of this article is to provide a scientific, critical analysis of classical conditioning (CC) with special attention to how it is frequently applied when working with pet dog clients and dogs that are fearful or aggressive. In keeping with evidence that a dog might show "fear," "aggression," or "ambivalence" (Horvath, Igyarto et al. 2007), I will use the umbrella term "reactive" to refer to dogs who show heightened emotional responses to stimuli regardless of the form it takes. Due to space limitations, a complete presentation of learning theory terminology will not be included; the interested reader is referred to recent articles in this publication providing this information (Silvani 2009) and more comprehensively elsewhere (Burch and Bailey 1999; Lindsay 2000; Donaldson 2002).

Overview

As noted above, CC occurs when one stimulus or event is a reliable predictor of the second event and the individual develops an anticipatory response to the first event (Donaldson, 2002). Although operant and classical conditioning are sometimes delineated as different types of learning (Silvani, 2009), we should bear in mind that both types of learning may occur in a given situation (Reid, 1996). More importantly, we need to remember that the *distinctions between various types of learning are irrelevant to dogs*. That is to say, in our interactions with dogs they are interpreting their experience on a moment-to-moment basis based on their answers to questions such as: Do I feel safe, pressured, or rushed? Is the experience pleasurable? How does this experience fit with what I have been experienced in the past?

Classical counter conditioning (CCC) is a type of CC in which a stimulus creating an unpleasant emotion in a dog is presented (e.g., loud noise) and is paired very soon thereafter (.5 second) with something pleasant (e.g., food). In the

context of dog training, the goal of using CCC is to change the emotional state of the dog and thereby influence, albeit indirectly, the behavior of the dog. CCC has a reputation among many dog trainers and behaviorists as being one of the most powerful tools in the proverbial toolbox especially when working with reactive dogs (McConnell, 2006; Reid, 1996).

I concur with other professionals that CCC can be an important component of interventions with reactive dogs. However, work with and observation of reactive dogs in a variety of settings has indicated that despite diligent efforts, a small, but not inconsequential, subset of dogs make no progress or deteriorate when CCC figures prominently into the intervention. Conversations with and observations from other trainers have supported this statement. Of course, it is unrealistic to expect any intervention to be 100%, and working with dogs that may have significant emotional issues is especially challenging.

What I am suggesting is that how we think about the process of CCC and how we communicate about this process to pet dog clients should be a thoughtful and realistic so as not to compromise the progress that dogs make. As Suzanne Clothier has noted, too much of the literature and conversations about working with reactive dogs in general, and CCC in particular, have been overstated and/or are too simplistic (Clothier, 2009; personal communication). Based on the above, I pose a number of questions that relate to CCC that are relevant in working with reactive dogs and clients with reactive dogs.

How do we know what we say we know?

If dog training as a profession is to be guided by scientifically validated principles (such as learning theory, developmental stages, etc.), then the logical starting point—albeit the "driest" starting point—is to ask question: How much scientific evidence do we have to support the major tenets of CCC? Let's look at a simplified version of how scientific knowledge often progresses or matures:

Phase 1—Organizing/describing: knowledge from anecdotal observations is organized and described;

Phase 2—Experimental Testing: testable hypotheses are subjected to tightly controlled, experimental studies; and,

Phase 3—Field Testing: if the findings from the above >

step are promising, the phenomenon is further examined under conditions that increasingly approximate “real life” conditions.

Examination of the dog training literature indicates that much of our understanding of CCC is either based on #1 and/or #2 above:

(1) Anecdotal: first-person accounts featuring an experienced dog trainer or behaviorist who worked directly with the reactive dog (e.g., the trainer/behaviorist helped her dog overcome thunderstorm phobia, dog-dog reactivity, fear of car washes, etc.),

(2) Experimental studies where variables were tightly controlled and isolated. In contrast to variables being tightly controlled, however, in many pet dog situations the trainer or behaviorist is *indirectly* delivering or coaching the client through the CCC intervention, and *many of the variables are uncontrolled*. Does this additional layer of the complexity and emotional involvement between client and dog still result in intervention efforts that are helpful for reactive dogs? From a scientific perspective, we don’t really know the answer because it hasn’t really been carefully scrutinized. My point here is: as a profession we are in need of additional evidence that the CCC protocols that are provided to pet dog clients can effectively be implemented and maintained by clients.

Can the client be successful?

Beyond the challenge of working with reactive dogs, as dog trainers and behaviorists we often have an additional set of conditions to meet when we consider how to intervene with reactive dogs. That is, except in cases of board and train or variations of it (e.g., day training), the use of CCC will entail significant direct involvement from the client. Therefore, *we must understand how the approach we are using intersects with the dog and the person working directly with the dog*. To use an analogy, as dog trainers and behaviorists, it is as if we are standing at the intersection and need to “direct traffic” that includes dogs and people and keep the situation safe at the same time.

Alexander (2006) indicates that a relevant consideration in thinking about the usefulness of CCC is the degree of commitment from the client. A high degree of commitment is considered especially important for CCC work because of its time-consuming nature. Another common denominator in many of the instances of where CCC appears minimally effective is that the “person-end of the leash” is relatively inexperienced. On the one hand, this is not surprising, given what experts in human motor learning tell us about the characteristics of “early stage learners” (Schmidt and Wrisberg 2004). Early-stage learners tend to:

- Make more (gross) errors, e.g., use stimuli that are too intense for a dog
- Be less consistent in their performance, e.g., may not consistently pair the trigger stimulus with a pleasant stimuli

- Have longer reaction times and this gets more pronounced with age, e.g., the recommended half-second to 3-second interval between the paired stimulus may be quite a bit longer
- Have a harder time determining what the most relevant information is in a given situation, e.g., may not remember that when using CCC as compared to OC it is not important to focus on what the dog is doing at the moment when a trigger is presented

In an upcoming article, I will discuss ways to you might help clients speed up the learning curve. For now, dogs’ behavioral responses can be quite subtle and dynamic and this can be especially true among reactive dogs. When there is a good match between the client’s abilities to respond and read a dog and the dogs’ behavioral tendencies, we have a better chance for success.

What about reactive dogs that don’t improve or get worse?

Naturally, when I talk about reactive dogs that don’t improve or worsen, I’m not referring to any dogs that you worked with! In the CCC literature, however, there is a phenomenon known as *sensitization* (Lindsay 2000) and for practical purposes it would indicate a deterioration in the dog’s condition. That is, when dogs hear a loud noise, such as a car backfiring, they startle. However, if the noise was repeated over and over, some dogs will habituate. Other dogs will become sensitized to the noise such that their reaction becomes more extreme and lower intensity stimuli will trigger a negative reaction (Reid 1996; Lindsay 2000). Unfortunately, it is not always possible to know which animals will habituate and which will sensitize. Reid discusses a study in which a group of kittens were all exposed to a dog entering the area where the kittens were housed. None of the kittens had any prior experience with dogs. Initially, all the kittens responded with threat displays (i.e., hissing, spitting, swatting). Subsequently, some of the kittens habituated and some became sensitized. Unfortunately, “practical advice” regarding CCC provided to clients often fails to disclose the possibility of a dog’s condition becoming worse.

We know that stimuli that are too intense for an individual tend to produce sensitization. Wilki (2006) provides an interesting case study of working with a client and the client’s thunderstorm-phobic Corgi. Wilki worked with the client and the dog initially doing CCC foundation work. The client and her dog then went off to do more work in the home environment using an audio CD to simulate thunderstorms. The client attempted to work too quickly with the dog (i.e., simultaneously increased volume and duration of the CD, did not break down the component parts of the noxious stimulus, etc.). The result was that within two weeks the dog was so sensitized to the CD that every time the client walked toward her stereo, the dog bolted into the bathroom in a panic. (It should be noted that, to their credit, this team worked their way out of this predicament and the dog eventually recovered to the point [continued on next page]

of being able to sleep through thunderstorms.)

Some dog trainers and behaviorists might say that the problem of sensitization such as those encountered in the Wilki case study are “implementation errors” on the part of the client (i.e., that the protocol was not delivered as intended). Fair enough. But, let’s also take a look at how some dog training clients might interpret a situation like this. First, the most common way of attempting to create positive associations is food; however, many clients resist using food in this manner. This resistance can be especially pronounced when using CCC because clients perceive that they are “giving the dog treats for doing nothing” (McConnell, 2009). The pet dog client who is “treat resistant” and has a dog who becomes sensitized to a trigger may conclude, “All I did on that program was feed my dog for behaving poorly.” In other words, from the clients’ point of view, the dogs’ reactive behavior increased, so it must have been the food that caused it (or reinforced it).

Can fear be reinforced?

The dog-owning public often expresses concern that they will inadvertently end up “reinforcing fear” in their dog (by pairing food with the presence of a trigger that creates fear in a dog). The response from some dog trainers and behaviorists (Hetts and Estep 2009; McConnell, 2009; Silvani, 2009) has been along the lines of: If fear is what is driving your dog’s reactive behavior, it’s not possible to reinforce fear by paying attention to a dog when the dog is afraid. While this response provided by trainers and behaviorists *might* be true², there are some other considerations that seem relevant to bring into the discussion.

First, if a client is asking this question it may suggest that using food as part of CCC will be very counterintuitive to that individual and may result in timing difficulties as the CCC intervention unfolds. That is, in using CCC when a trigger for a reactive dog is presented (e.g., a man with a beard appears), this should be followed by presentation of the pleasant stimuli (e.g. food). Based on what we know about reaction time in humans, the requirement of having to cognitively process something that is “counter-intuitive” will slow the response process. Depending on the intensity of the trigger and other factors, this delay results in a degradation of the CCC intervention work.

Second, in regard to fear, it is *sometimes the case* that we have strong evidence that a dog is highly fearful (e.g., thunderstorm phobias are characterized by pacing, trembling, whining, hiding). Sometimes, however, we can’t be as confident about what a dog is experiencing. Grandin (2009) has indicated that there is good deal that still needs to be sorted out about how much of aggression and which types of aggression contain elements of fear. One recent study (Horvath et al, 2007) found that when dogs were exposed to stress, three profiles of response emerged: fearful, aggressive, and ambivalent. The ambivalent group presented a profile that contained elements of each of the other groups, as well as tendencies to switch between different modes of dealing with stress. It seems that we need explanations for

dogs’ behavior that are more nuanced or “thin sliced” than is sometimes presented in much of the literature.

Fears and phobias: Isn’t it all the same?

The term “phobic” is sometimes used interchangeably with “fear,” but experts agree there are important differences. Fear is generally considered to be of lower intensity than a phobia (Grandin & Johnson, 2009). McConnell (2006) notes that although phobias are often directed at things that could be dangerous, it is the level of fear that is considered “excessive” or disproportionate to the danger presented. Additionally, phobias typically are not related to any specific event or trauma and often increase over time. When we are talking about phobia at this level, there may be a tendency for humans to inflate what impact (whether positive or negative) it has on the dog (McConnell, 2006). Thus, diligent work with a phobic dog using CCC may still have a poor prognosis because of the severe nature of the problem and possibility of a relapse if conditioning is not maintained.

The idea that we may play a relatively minor role on the impact of a dog’s phobic behavior has been supported by the recent work of Dresher and Granger (2005). In their work with thunder-phobic dogs, Dresher and Granger found that owners who comforted dogs during simulated thunderstorms had no significant dampening effect on dogs physiological stress levels.³ Interestingly, of the variables that were measured, the only one associated with lower responses to stress was whether the thunder-phobic dog lived with other dogs. One possible (and humbling) explanation for why so many professional dog trainers and behaviorists seem able to help their dogs overcome thunderstorm phobia may be related to the tendency of members of this group to live in multiple-dog households.

Is it “all about the food”?

How does food fit into the overall CCC process? In a very narrow sense, CCC works to create new, pleasant emotional associations (Alexander, 2006) for learners in the hopes of reducing fear and aggression. Food is often, but not always, used in CCC as a means of facilitating a positive emotional state in reactive dogs. Clothier (2009), however, notes “To just feed (the usual input) a dog in the hopes that eventually that will change how he feels is at best naive, at worst ignorant of the reality of how emotional states inform learning.” This insight is supported by Lindsay (2000) who has noted that in some experimentally controlled studies, there is some suggestion that the “presentation of food actually interferes with the reduction of fear” (p. 230). It is speculated that acquiring food, in some cases, may *overshadow* an animal’s attention to whatever stimulus is the source of fear. Again, Clothier (2009) notes, “Classical conditioning does not necessarily translate into adaptive, functional skills. Teaching the dog specific skills that help him feel safe and be able to control his environment in meaningful ways is necessary.” For a presentation of various techniques that incorporate both classical and operant conditioning for reactive dogs—and include food, ➤

as well as distance as part of the intervention—the reader is referred to Alexander (2006).

What is our destination?

As a final point, it seems helpful to remind ourselves where we want to end up at the end of our work with reactive dogs and clients: stable dogs that can enjoy life with people and the world in which they live. CCC *may* be part of *one* way to help dogs and clients begin the journey to this place. The effective use of CCC in the context of reactive-dog situations must take into account (1) a pet dog client's capacity for implementing and maintaining the desired emotional states in a dog as well, and (2) a comprehensive understanding of the fluid nature of canine emotions and behavior.

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Additional Resources (just for fun!)

Helena, Tess of. (2007). *Training people: How to bring out the best in your human*. San Francisco, Chronicle Books.

Endnotes

- ¹ Classical conditioning is also referred to as learning by association or respondent learning.
- ² The question of whether fear can be reinforced by paying attention to or feeding a fearful dog continues to be controversial. A number of trainers and behaviorists (Hetts and Estep 2009; McConnell 2009; Sivani 2009) have claimed that it is not possible to reinforce fear in this way. Pryor (2009) claims otherwise. I am suggesting that this question should be subjected to objective, scientific inquiry as few relevant, research-based studies seem to exist and/or studies that do exist are often not clearly identified by trainers and behaviorists when discussing this issue.
- ³ Dreschel and Granger (2005) examined whether cortisol (a measure of stress) levels in thunder-phobic dogs was different under two different conditions: "thunderstorm" and "normal." The design of the study, however, was "counterbalanced" which means that half the dogs experienced the "thunderstorm" on the first day and experienced the "normal" conditions on a second, later day. The other half of the dogs experienced the conditions in the reverse order. Thus, design of the study did *not* provide a way to examine if comforting a dog during a thunderstorm served as a reinforcer for behavior in the dog as has been implied by several authors.

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