

Canine Play and Aggression
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Cleveland, OH
October 25-26, 2003



Immediate Causation and Adaptive Significance

2 Kinds of answers to the question “why do dogs do that?”

- 1) Immediate or proximate causes: “What is the trigger for this behavior?” question involves hormonal, neurochemical and sensory precursors and consequences
- 2) Ultimate cause or adaptive significance: “How does this behavior contribute to this animal’s survival and reproductive success in the environment in which it evolved?”

Every organism on the planet is descended from an unbroken line of successful reproducers.

Signs to Look for During Play

- Meta-communications (“atmosphere cues”) such as bouncy, inefficient or exaggerated movements, play face and play bows
- Role reversals and activity shifts
- Self-handicapping

A meta-communication qualifies behavior that follows it. It’s as though the dog were saying “I’m about to bite/body-slam/chase you but my intention is play.”



The On-Leash Dog-Dog Aggression Cycle

Zero dog-dog interaction for days/weeks/months after age 8 weeks leads to...

Crude behavior: dog comes on too strong (super-motivated through deprivation) when meeting other dogs and has poor social skills, which leads to...

Owner alarmed by intensity, keeps leash tight, minimizes interaction time and/or avoids dogs ("he gets too excited"), which leads to...

Worse deprivation and frustration, but no increase in social skills: scuffles with irritated/defensive dogs, which leads to...

Still greater owner alarm, so owner admonishes dog and "tries to control him" when approaching dogs with tight leash and/or punishment, which leads to...

Barrier frustration and classical conditioning: dogs = frustration/punishment, which leads to...

Frank aggression towards other dogs, still no development of social skills, which leads to...

Total isolation or escalated punishment, which leads to...

More erosion and generalized aggression to other dogs





Dog-Dog Aggression



Aggression is normal, adaptive behavior in virtually all animal species and domestic dogs are no exception. Luckily, there are a number of things dog owners can do to minimize both the frequency and intensity of dog to dog aggression.

On-Leash Aggression

Dogs are highly social, to the point of compulsion. When most dogs spot another dog on the street, they are highly motivated to approach and investigate. Being on leash restricts their ability to do so. The resulting frustration translates into increased excitement and agitation, which can be alarming to the owner, who may then deliberately restrict access, tense up before encounters or even punish the dog. This starts an association between the sight of dogs and frustration as well as owner tension and possibly punishment. A vicious cycle is then born that often culminates in thwarting-related or “barrier frustration” aggression. This is mainly why so many dogs are more aggressive on leash than off.

Part of the solution is recognizing the inherently abnormal situation of dogs meeting novel dogs without freedom of movement. Owners can mitigate this by allowing dogs to approach and investigate friendly dogs or allowing them to do so after performing a “please may I” command such as “sit.” If a dog has a well-advanced case of barrier-related aggression, a combination of changing the association from negative to positive, obedience proofing and remedial socialization will usually produce profound improvement.

Sibling Rivalry

Fights between dogs who live together are very common. Dogs compete for resources such as food, bones, toys, owner attention and sleeping spots and have individual preferences and moods. Many dogs are also sensitive about proximity and body-contact. If the fights are non-injurious (i.e. you are not at the vet's following each fight having one or both dogs sutured), there are a number of options, including non-intervention. Fights are usually context-driven and, once the triggers are uncovered through detective work, some combination of obedience routine to manage the dogs, selective reinforcement of better behavior, changing emotional associations and time-out penalties for fights will bring relative peace. If the fights are damaging to either participant, efforts must be much stricter, with an airtight management regime usually being necessary.

Dog-Park Fighting

Dogs can be bullies, competitive over resources or socially uncomfortable. Male dogs are at statistically very high risk to tangle with other males. This mix can make for regular excitement at dog parks! If dogs play well usually but seem to target certain dogs for bullying, they can be given time-out consequences (taken home immediately or removed to car for a couple of minutes) for their bullying behavior. Resource guarders can be managed with good situational awareness. Uncomfortable dogs can be gradually built up with carefully planned exposure. And, it is difficult to overstress the importance of neutering male dogs, mainly to prevent their scent triggering other males.

Helping the Shy or Fearful Dog



Fearful dogs avoid people or things that frighten them, may seem depressed or disinterested and sometimes lunge or do a barking display to make what they're afraid of go further away. If you've decided to share your life with a shy dog, take heart. The following information can help you understand what he is feeling and give you ways to help him get better.

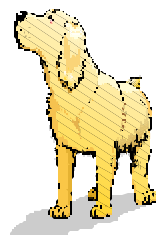
Different Kinds of Shyness

The most common kinds of shyness in dogs are:

- Social shyness, where the dog is fearful of unfamiliar people or certain kinds of people. Dogs like this are sometimes described as “taking a while to warm up,” “one man dogs” or “protective.” They are usually fine with a certain person once they get to know them. Examples are dogs who are afraid of men or big men or men with beards, dogs who are uncomfortable around children, and dogs who bark at the sight of people with unusual gaits. Dogs can also be shy with other dogs.
- Context fears, where the dog is afraid of certain kinds of situations. Examples are dogs who are afraid of going to the vet, panic during car rides, avoid traffic or are uncomfortable in new places.
- Sound sensitivities, where the dog is afraid of sudden loud noises. These dogs flatten and try to escape when a car backfires, or pace and salivate during thunderstorms or fireworks.

Why Is He Like This?

Fear is very common in all animals. Although it's possible that a fearful dog has suffered abuse or a bad experience, most of the time fears result from a combination of a genetic predisposition and some lack of experience, especially in the first months of life. For instance, a dog may have missed out on becoming socialized to certain kinds of people by simply not being around them enough when he was a puppy.



Will He Get Better?

Most fearful dogs can be helped to gradually improve. This is a long, slow process in most cases and requires patience. Shy dogs are not for everybody. They need caretakers who have compassion and perseverance.

What Can I Do?

The best thing for a fearful dog is to expose him to what frightens him but at a **milder intensity** and combined with a **fun or positive association**. So, a dog who is afraid of children might start to feel more comfortable if he regularly sees children but at a distance where he doesn't feel too worried. Then, if his guardian praises, pats him and gives him treats after the dog has noticed the kids, the dog might start to see the kids as good news: "Wow, great things happen to me when kids are around!"

A dog who is afraid of traffic would benefit from audiotapes of traffic sounds, time spent near quieter streets, all combined with games, treats and happy talk from his guardian. As the dog improves, time can be spent on busier and busier streets. Dogs learn strongly from association.

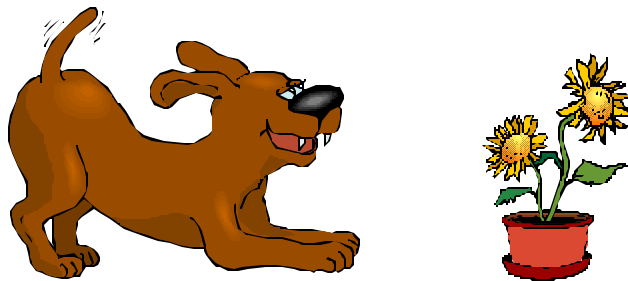
How Can I Help My Shy Dog Get Used to Visitors?

The best possible strategy is to let the dog go at his own pace. Any kind of pressure or coercion to make contact usually makes things worse. Let the dog hide if he needs to, investigate things and come to people when he feels ready. People can offer or toss treats but instruct them to not try patting the first time the dog comes to investigate them. This can be very hard for people to do so remind them to keep their hands to themselves early on.

Are There any Activities That Might Help?

Yes! The following can help build confidence:

- Free-shaping tricks and new behaviors using a clicker
- Dog-dog play, if s/he likes other dogs
- Tug of war (be sure to learn and enforce the rules)
- Agility training



Operant Acronyms and Terminology



S – R – R	Stimulus-Response-Reinforcement
A – B – C	Antecedent-Behavior-Consequence
C – R – R	Command/Cue-Response-Reward
R+	Positive Reinforcement (increases behavior by adding something)
R-	Negative Reinforcement (increases behavior by terminating aversive)
P+	Positive Punishment (decreases behavior by adding aversive)
P-	Negative Punishment (decreases behavior by terminating something)
S _D	Discriminative Stimulus (cue that a particular operant contingency is in effect, e.g. “SIT = opportunity knocking – if you put rear on floor, then chance for R+” or “DANGER = “if you refrain from touching, chance of avoiding aversive”)
EO	Establishing Operation (pre-training measures to make sure training will work, e.g. charging up a clicker, fasting dog)
DRI	Differential Reinforcement of Incompatible Behavior (training a behavior that is mutually exclusive to a target problem behavior, e.g. sit Vs. jump up)
FR	Fixed Ratio schedule (e.g. FR10 – buy ten pizzas, get one free)
VR	Variable Ratio schedule (e.g. VR5 – R+ for every 5 downs <i>on average</i>)
FI	Fixed Interval schedule (e.g. paycheck every 14 days if you’re still around)
VI	Variable Interval schedule (e.g. spouse buys candy every 9 days <i>on average</i>)

Classical Acronyms and Terminology



CS	Conditioned Stimulus (the S you are trying to get conditioned)
US or UCS	Unconditioned Stimulus (an S that elicits a natural response, which you are using to condition the CS)
UCR	Unconditioned Response (the natural response to the UCS)
CR	Conditioned Response (the response to the CS that gets conditioned after sufficient repetitions of the CS predicting the UCS)
CER	Conditioned Emotional Response (a CR that is emotional in nature: most commonly fear or “yippee!” – as opposed to a salivation reflex, gastric secretion or other bodily response that could also be conditioned)

Principles of Desensitization and Counterconditioning



Systematic desensitization is a technique that was originally developed by behavioral psychologists to treat people with anxiety and phobias. The subject is exposed to a fear-evoking object or situation at an intensity that does not produce a response. If you were terrified of ants, for example, your first hierarchy rung might involve showing you a cartoon of a pink, unrealistic ant, at a distance if necessary. You wouldn't be the slightest bit afraid (hopefully). The intensity - in this case, degree of realism and proximity - is then very gradually increased contingent upon you continuing to feel okay. A hierarchy is developed at the beginning of treatment, ranging from the easiest to most difficult level versions of the stimulus.

Desensitization is most often performed in conjunction with another technique, *counterconditioning*, which is an application of classical or Pavlovian conditioning. In classical conditioning, when one event becomes a reliable predictor of another event, the subject develops an anticipatory response to the first event. The association between the two events is particularly evident if the second event is relevant or potent.

There are important advantages for animals of learning the tip-offs to important environmental events. Dogs learn that a leash coming out of the cupboard means a walk is next. Cats learn that the sound of the can opener means food is next. And we all know the story of Pavlov's dogs.



What if, whenever I show you the picture of the ant, I then give you a bit of favorite Belgian chocolate? With repetition, you will start to have a nice feeling about that ant.

It's crucial to maintain the distinction between classical and operant conditioning. In classical conditioning the animal is learning about events and their predictive relationship with other

events. In operant conditioning he is learning about his own voluntary behavior and its consequences. Classical conditioning is about associations. Operant conditioning is about rewards and punishments. And, the anticipatory response that is conditioned using classical conditioning procedures is involuntary.

All kinds of involuntary responses can be classically conditioned, such as gastric and salivary secretions, immune responses and autonomic reflexes. These are of little practical interest in dog behavior modification, but *emotional* responses are of tremendous interest. Pairing one stimulus with a meaningful second stimulus can create a Conditioned Emotional Response, or CER. Many of the original CER experiments involved the conditioning of fear responses by pairing otherwise neutral or positive things with aversive, scary things. We are usually interested in making dogs feel *good* rather than bad about certain events, however, so instead of using aversives to condition, we use things the dog really, really likes, such as tasty food, toys or walks.

Counterconditioning is about changing associations. It's called *counterconditioning* rather than simply conditioning because the dog already has an unpleasant emotional response to the thing we're trying to condition, so we *counter* that by establishing a pleasant CER. So, a dog who is uneasy around strangers learns that their presence, proximity and later, contact, predict his favorite things in the world.

How this looks in actual treatment is the presentation of a low-enough intensity, or *sub-threshold*, version of the trigger, immediately followed by a potent, pleasant counter-conditioning stimulus. This is repeated until the dog is evidently and eagerly anticipating the counter-stimulus when the trigger is presented. Then, the intensity of the trigger is increased and the procedure repeated. If, at any point, the dog shows the original reaction to the trigger, it means the intensity of the presentation is *super-threshold*. It is important to then back off to a reduced trigger intensity and work back up gradually again. No good comes of rehearsing the dog's old, growly behavior by replicating super-threshold versions of the trigger. In fact, it can make the dog worse.

Order of Events in Classical Conditioning

The difference between establishing a beautiful CER and literally achieving nothing is very often due to how well the trainer orchestrates the order of events. In order for a dog to have an anticipatory response to the first event in a classical conditioning procedure, it must have high predictive value that the second event is coming. This predictive relationship can be muddled by a couple of common errors.

First, there is a risk of simultaneous or backward conditioning. Simultaneous conditioning refers to presentations where the second event occurs simultaneous to the first, so there is no predictive relationship. Backward conditioning refers to presentations of the two events in reverse order so that the predictive relationship is also reversed. Dogs get excited at the sight of their leash coming out of the cupboard because the walk comes *afterwards*. If the walk happened simultaneous to or before the leash came out of the cupboard, the leash's appearance would not be a very good tip-off. It wouldn't give the dog any information about when a walk is coming.

Similarly, if events in stranger desensitization procedure are not in the correct order, conditioning won't take place (or the dog may become tense around food if people are presented after the food and at too high an intensity). The first event is the approach, appearance of the person(s) or Scary Thing, at low intensity (i.e. high distance, low movement etc.). The second event is the fabulous pay-off, a happy, giggling owner and the super high level treats.

In counterconditioning to strangers, this means that the appearance of, approach by or touch of the stranger must *precede* the delivery of the counterconditioning treat. If the trainer is trying to "prevent" a reaction by showing the dog the treats up front, or if the order of presentation gets sloppy, the emotional response either will not get conditioned or will get conditioned, but to something other than the approach and/or removal. Many people feel intuitively that if events are close together in time, animals will form associations regardless of the precise order of events, but this is a mistaken intuition. There must be a *predictive* relationship. Strangers predict goodies.

Predictability

Another factor that will influence the strength of conditioning is the correlation between the treats you're using and the scary person. If the person sometimes occurs without the treat or that treat sometimes is given without a stranger present, the correlation will be lower and the strength of your CER compromised. For this reason, don't use the high value treats you're using in D&C exercises for other training endeavors or as general dog treats. Reserve it for its sole purpose. Another good strategy is to actively rule out competing stimuli, such as the trainer, the trainer's bait pouch, smell of the bait and other salient aspects of the training picture. Have these things present often without supplying the treat. This will help isolate the scary person as best possible predictor.



Predictability in Classical Conditioning

Which of these two trainers has isolated their CS as best predictor?

Trainer 1

	CS		CS		CS			CS	CS
		UCS		UCS		UCS		UCS	UCS
	HAND REACH		HAND REACH		HAND REACH	HAND REACH	HAND REACH		
SETS UP SESSION									
BAIT POUCH									
SMELL OF ROAST CHICKEN									
1 MIN	1 MIN	1 MIN	1 MIN	1 MIN	1 MIN	1 MIN	1 MIN	1 MIN	1 MIN
TRAINER PRESENT									

Number of pairings: _____

Best tip off(s): _____

Trainer 2

			CS					CS	
				UCS					UCS
	HAND REACH				HAND REACH	HAND REACH			
SETS UP SESSION									
BAIT POUCH									
SMELL OF ROAST CHICKEN									
1 MIN	1 MIN	1 MIN	1 MIN	1 MIN	1 MIN	1 MIN	1 MIN	1 MIN	1 MIN
TRAINER PRESENT									

Number of pairings: _____

Best tip off(s): _____

Vet Prep Program for Puppies

3 components worked separately, then combined: *procedures*
place
people

Procedure Conditioning Steps

Do procedure, give treat, repeat several times

Escalate only if dog extremely comfortable and mainly interested in treat

Have dead time between trials to rule out bait pouch etc. as better predictor than procedure

- Restraint I:
- a) Body hug (vet tech style) by familiar person
 - b) Longer duration body hug
 - c) Firmer body hug
 - d) Firmer with duration body hug
 - e) Body hug and elbow restraint (blood draw style)
 - f) Body hug and elbow restraint with duration
 - g) Brief hug/elbow restraint while other familiar person touches foreleg
 - h) Longer duration hug/elbow while other FP touches foreleg
 - i) Brief hug/elbow while FP holds leg off
 - j) Longer duration hug/elbow with leg hold-off
 - k) Brief hug/elbow with hold-off and syringe
 - l) Brief hug/elbow with hold-off and syringe touches
 - m) Longer duration hug/elbow with hold-off and syringe touches
 - n) Simulated blood draw (realistically hard needle jabs)
 - o) Generalization: others practice exercises, including in scrubs
 - p) Combos with place and people, once these are conditioned
- Restraint II:
- a) Head, ear and muzzle handling
 - b) Brief head restraint
 - c) Longer head restraint
 - d) Brief head restraint plus "exam" of eyes, ears or mouth
 - e) Longer head restraint plus "exam" of eyes, ears or mouth
 - f) Generalization: others practice exercise, including in scrubs
 - e) Combos with place and people, once these are conditioned
- Restraint III:
- a) Collar hold while back end patted by someone else
 - b) Collar hold while back end briefly restrained by someone else
 - c) Longer duration collar hold and back-end restraint by someone else
 - d) Firm collar hold while back end briefly restrained by someone else
 - e) Longer duration firm collar hold and back-end restraint by someone else
 - f) Brief collar hold with tail lift by someone else
 - g) Longer duration collar hold with tail lift by someone else
 - h) Firmer long-duration collar hold with brief tail lift by someone else

- Feet:
- a) brief front foot touch
 - b) longer duration front foot touch
 - c) front foot hold
 - d) longer duration front foot hold
 - e) repeat a-d other front foot
 - f) repeat a-d both back feet
 - g) simulated foot exam
 - h) two people: one holds collar, other does steps a-g

Other procedures, as needed (e.g. hip radiographs)

Place Conditioning Steps

- a) Hang out in clinic (hit all areas) for 2-3 minutes for free treats or sit/down for treats
- b) Repeat above for 10-15 minutes – treats from staff whenever possible
- c) Practice getting in and out of cages/kennels for treats
- d) Short stays in cages/kennels (1 – 2 minutes) with owner absent
- e) Combos with procedure and people, once these are conditioned

People Conditioning Steps

- a) Familiar person dons scrubs and practices sit for treats
- b) Familiar person dons scrubs and paraphernalia (syringe, stethoscope) – sit for treats
- c) Unfamiliar person in scrubs – sits for treats
- d) Unfamiliar person in scrubs pats and body-handles
- e) Combos with procedures and place, once these are conditioned



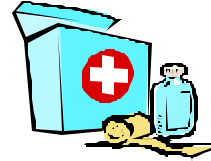
Denise's Puppy Socialization Hitlist

	7-9 wk	9-10 wk	10-11wk	11-12wk	12-13wk	3-5 mo	5-10 mo
Adult women							
Adult men							
Large groups							
Elderly people							
Disabled/odd gaits							
Loud people							
Big looming people							
Uniformed people							
People in hats							
People with beards							
People with glasses							
People with helmets							
People with gloves							
Babies							
Toddlers							
Juniors							
Teens							
Friendly adult dogs							
Puppies							
Cats/kittens							
Small pets							
Livestock/horses							
The beach/ocean							
Shopping malls							
Friends' homes							
Parks/kites/ballgames							
Outside a schoolyard							
Riding in a car							
City streets							
Slippery floors							
Party							
Veterinarian's office							
Grooming parlor							
Bicycles							
Motorcycles							
Buses							
Trucks							
Shopping carts							
Rollerblades, skateboards & razors							

Aggression Prognosis Checklist

ABI

- Extensive history of zero damage to minor lacerations
- Some history of zero damage to minor lacerations
- Extensive history of minor punctures
- Some history of minor punctures
- Unknown
- History of deep punctures and/or extensive contusions
- History of mutilations or fatalities



Client Commitment and Compliance

- Commits readily to program, persevering, all family members share goals, able and willing to manage, does prescribed exercises, positive overall perception of dog
- One of the above missing
- Two of the above missing
- Three or more of the above missing





Bite Threshold

- Has never bitten in spite of six or more extremely super-threshold situations
- Has bitten once or twice out of six or more extremely super-threshold situations
- Unknown
- Bites readily






Presence of Protracted Warning (*freeze, growl, snarl, air-snap*)

- Two or three clearly displayed prior to biting 
- One clearly displayed prior to biting
- One or more displayed subtly and/or briefly prior to biting
- None perceived 



Problem Type

- RG or body-handling 
- Stranger/strong fear component 
- Predation 

Muzzle Desensitization

Before using the muzzle during exercises, it should be introduced to the dog in a systematic way, in order to minimize the amount it slows down the eventual generalized response. It is also less aversive than just slapping one on the dog. Here is a sample hierarchy for muzzle desensitization and counterconditioning. Do not progress to the next step in the program until you have achieved the goal on the current step. You can expect to spend a week or two completing all the steps if you work at least once a day for 15-20 minutes.

- I. Show the dog the muzzle and then give him a generous handful of tasty treats – repeat this several times per day until he is demonstrating a happy, anticipatory response when he sees the muzzle, very much like the response dogs have when they see their leash come out of the closet.
- II. Play a targeting game with the muzzle wherein you hold out the muzzle and reward the dog every time he bumps it with his nose. A clicker trained dog is a plus here to mark nice responses. For information on clicker training, see Karen Pryor's wonderful book *Don't Shoot the Dog!*
- III. When the dog is targeting as quickly as you can present the muzzle, reward only after every two or three nose bumps. While doing so, try to select the nose bumps that are a little longer and stronger.
- IV. Hold the muzzle with the entrance to the nose tube facing the dog. Reward him for getting his nose anywhere in that area now. Give especially large rewards when he does any approximation of putting his nose right in. It's okay to prompt responses at this stage by holding a treat at the other end so that the dog must insert his nose in order to collect through the tube. It is sometimes okay to leap right in with this prompting exercise, skipping parts I – III, but the most prudent course of action is to spend a bit of time with the preliminary exercises.
- V. The reward standard is now the dog putting his nose right into the muzzle. If you have achieved this with luring, fade this lure now so that the dog must put his nose in *before* you produce the treat rather than putting his nose in once the treat is visible at the end.
- VI. Add duration to step V. Once the dog's nose is in the muzzle, delay giving the reward through the hole for a second or two. Praise him lavishly while he waits. Tell him how attractive he looks. Gradually increase the time he must remain in to 10 seconds.
- VII. Adjust the muzzle straps so that they would fit him extremely loosely. While he is waiting in the muzzle for his treat, as per step VI, start fiddling with the head straps while he waits. When he is used to this, try snapping the muzzle on very loosely. Praise him for all you're worth the first time you attach it and feed him generously. When you first start messing with the straps, he may withdraw his nose for a while – if he does, back off temporarily and then try again with more subtle strap-fiddling.
- VIII. Adjust the straps so that they are closer to a correct fit (which is snugly around the back of his head, right up under the occiput, the pointy bone at the back of his head). Snap the muzzle on and give him extra praise and food rewards again. He is so handsome. Gradually tighten the fit and extend the duration for which he wears the muzzle.

Basic Food Bowl Exercises

Standard Prevention Exercises for All Non-Guarding Dogs and Puppies

Approach dog while eating and add bonus to dish – something much more palatable than his food. Approach from all angles and at different points in meal and get others to do likewise. Add bonus from pocket, pouch or behind your back so it is not “previewed.” This exercise also serves as a spot-check for the emergence of food-guarding

Signs of Guarding

- Accelerated eating
- Cessation of eating/“freezing up”
- Glassy or hard eyes
- Growling
- Lip lifting
- Snapping
- Biting

2 Easy Anti-Guarding Protocols for Guardians with Good Mouths

- 1) At mealtime, put down empty food dish
 - 2) Approach and add a few pieces of kibble, allow dog to eat
 - 3) Withdraw and repeat until entire meal fed in this manner
 - 4) If dog guards dish, end meal-time: “too bad”
 - 5) Feed 2-3 meals this way
 - 6) On 4th meal, gradually reduce time between approaches and increase the amount of kibble per installment so that overlap develops: dog is still eating while you re-fill
 - 7) When you have reached the point that you are giving meal in two or three installments and have not had guarding, switch to bonus-addition, as per “prevention” instructions (don’t forget to cover generalization bases)
-
- 1) Approach dog while eating to “safety distance” (pre-guarding distance) and flip bonus at bowl (don’t worry about accuracy), repeating several times in a row
 - 2) Do this for 2-3 meals
 - 3) On 4th meal, decrease distance slightly after first flip
 - 4) If successful (no guarding), continue gradually decreasing distance until you can approach bowl and drop bonus in
 - 5) Other family members repeat steps 1 – 4, adults first, then children, supervised
 - 6) Switch to prevention instructions

Should Dogs Sleep on the Bed?

It is commonly believed that playing tug-of-war games with dogs and allowing them to sleep on their owners' beds will cause them to challenge and be aggressive toward their owners. A study by New York City applied behaviorists Peter Borchelt and Linda Goodloe, did not support these beliefs. They distributed a survey to over 2,000 dog owners which asked detailed questions about the behavior of their dogs, including what kinds of social interactions owners permitted and the frequency of occurrence of various forms of aggressive behavior. There was no correlation between whether or not tug-of-war and other competitive interactions were encouraged and the likelihood of any aggression directed at either family members or strangers. Allowing a dog to sleep on the bed was also not correlated with the occurrence of aggression. These results support the idea that there is nothing inherently wrong with allowing dogs to sleep on the bed and playing tug-of-war with them.

Another common belief is that feeding the dog before the family eats leads to the dog achieving a dominant position because he is allowed to eat first. There was no evidence to support this belief. Dogs **can** be aggressive over food, toys, a favorite resting place or when people try to move them. Desensitization and counterconditioning therapies can improve behavior in most cases.

Tug Rule Summary

- 1) **Dog Must "Out" On Command:** out-on-command is motivated initially with food rewards and later maintained with re-initiation of the game when the dog outs and a time-penalty or game-misconduct for failures to out
- 2) **Designated Toy and Compound Start Command:** the game is only played with one specific toy and never with anything else, and there is a specific initiation command
- 3) **No Uninvited Takes or Re-Takes:** dog must not grab before the initiation command or else face a time-penalty or game-misconduct
- 4) **Frequent "Obedience Breaks" in the Action:** these are "outs" followed by a bit of obedience (sit-down-tricks) followed by re-initiation as reward
- 5) **Jaw Prudence:** dog teeth must never make contact with human flesh by design or accident or he faces a game-misconduct. Even if you deliberately "feed" a dog your hand, he must go out of his way to avoid it. **No exceptions**

The Struggle for Dominance: Fact or Fiction?

A Bird's Eye View

By S.G. Friedman, PhD and Bobbi Brinker

In the field of psychology, an important distinction is made between *behaviors* and *constructs*. In this context, a behavior describes *what* a bird is doing and is defined as something that can be observed and measured. We can see and count the number of times a bird flies off a perch, and we can hear and clock how long a bird screams. Alternatively, a construct is an idea or theory about the mental processes inside an individual that explains *why* or *how* they behave as they do. As such, a construct cannot be observed or measured directly. These explanatory theories are “constructed,” that is, inferred from the outward behaviors we can observe and measure with our senses. You can't touch or measure a bird's dominance, per se, but you can measure how often he bites you when you try to get him off the top of his cage. Height dominance, cage dominance, food dominance, and flock dominance are all examples of many commonly discussed constructs assumed to explain companion parrot behavior.

Admittedly, specialized lingo like “constructs” can be a major turnoff, but sometimes these concepts are so clarifying that it's worth the effort to ponder them. The distinction between behaviors and constructs is part of a larger framework for understanding behavior that is relevant to those of us living with companion parrots. Of course, our goal is always the same: To better interpret why our birds behave the way they do and identify what can be done to decrease the problems they encounter living with us.

Can't Live With `Em or Without `Em

Constructs are useful. When we observe what appears to be a related set or class of behaviors, it is both efficient and compelling to synthesize them according to some unifying process. For example, it is much more succinct to say that a bird is exhibiting “nesting behaviors” than it is to describe each of the behaviors that comprise this construct. It could take hours to describe the specific individual behaviors of Irene Pepperberg's amazing bird Alex, when what we really want to convey is that this bird is very “intelligent.” Birds are loving, fearful, athletic, zany, all constructs that allow us to convey important information to one another with single words.

But for all their apparent usefulness, constructs present serious obstacles to the pursuit of understanding behavior (human and parrot alike). The first problem is with the very choice of a label that, like a picture, can convey a thousand words— and emotions. Labels evoke powerful impressions about the value of what they describe. These impressions predispose us – no, prejudice us – to interpret behavior in very positive or negative ways. For example, some people describe cockatoo behavior as deliciously cuddly, while others describe the same behavior as overly needy. Are greys cold or independent? Are these good or bad things? Should we try to change or accept them?

The second problem with thinking in terms of constructs rather than observable behaviors is verifiability. Since they describe intangible mental processes that are neither directly

observable nor quantifiable it's hard to know, for any given construct, if we are dealing with an explanatory truth or an explanatory fiction. For example, when a bird bites you from the top of his cage, is he exhibiting height dominance, fear, or simple annoyance at being removed or interrupted? How can you tell? As you can see, it is a huge and precarious leap of logic, not science, to jump from observable behaviors to interpreted constructs and there is no surefire way to control the accuracy of the landing.

Finally, the third problem with constructs is that they are tightly bound by our own genetic, cultural, and personal perspective: The Human Perspective. For most of us, thinking outside the proverbial "box" to truly understand a child, spouse, or friend is tough enough. Thinking outside ones own taxonomic class, from *Homo sapiens* to *Aves*, is an extraordinary challenge. Trying to increase our understanding of birds by drawing constructs from the well of human experience is fraught with problems. On the one hand, parrots need all the humanity we can muster in order to thrive in our homes. On the other hand, our uniquely human perspective too often leads us to respond and intervene in inappropriate or even harmful ways. For example, it is not uncommon for new parrot owners to punish their bird for biting when he was merely leading with his beak.

Origins of the Dominance Theory

Within the companion parrot community, it is a commonly held belief that our birds behave from an inherent need to dominate their human flock, that is, to be king of the tree. Many people have described pet parrots as control freaks with authority complexes that are looking for our submissive reactions in order to win the struggle for dominance. It is the glib repetition of this idea, not research, which has given it status as the most proffered explanation for our birds' noncompliant behaviors.

Strangely, this interpretation of the dominance construct persists in spite of the lack of corroborating evidence from ornithologists, field biologists and wild bird behaviorists who are studying wild parrots. Apparently, in their natural habitat there are no alpha parrots or straight-line hierarchies. Contention between parrots appears to be relatively uncommon and brief with unpredictable outcomes that change with the wind. Life in the wild is simply not as neat as we in the companion world would have it. It is also worth noting that, just like the rest of us, biologists must discipline themselves to resist the allure of going beyond observable behaviors into the realm of explanatory fictions. The history of science is strewn with such errors of interpretation in all fields of study.

It seems that the main basis of the dominance construct applied to companion parrots is the projection of our own domineering behavior. We are, after all, proficient controllers, and the dominance construct is a strikingly human interpretation of what our birds are thinking when they simply decline to step up. It is not without a certain logic; it has a certain utility, but does it lead to the best practices with our companion birds?

Clearly, simple logic and utility is not enough. To advance our understanding of our birds we will need to bring on board the multidisciplinary knowledge of many different fields of study. This was not easily accomplished in the past. However, such a strategy is more possible now than ever before.

So What?

Given that constructs are merely theories about what underlies behavior, it is reasonable to wonder what all this fuss is about. However, the way in which we respond to our birds is strongly influenced by our assumptions about what makes them tick. Interpreting our birds' noncompliant behavior as a struggle for dominance leads us to naturally respond by picking up the gauntlet, clamping down and meeting the challenge with counter-dominance. How would our responses differ if we interpreted our birds' refusal to our requests as fear or bird-appropriate self-centeredness or annoyance at our frequent imposition? Misunderstanding what motivates behavior results in missed teaching opportunities and decreases the likelihood that we will respond with appropriate, effective or humane interventions. Perhaps this point can be made clearer with this silly story from our own more familiar human turf:

We know some poor parents whose 3-year old daughter refused to brush her teeth. Every night, when told it was time to go to bed, she ran up the ladder and hid in the farthest corner of the top bunk bed. One night, when her mother stretched up to grab her, the girl bit her! Well, that was the final straw. The parents could not reward such a challenge or show submission to this willful child who had apparently assumed that her height advantage on the top bunk bed made her the dominant person in the house! So, they took back control assertively and busted her to a futon in the basement. She would never be higher than her parents again. The girl still refuses to brush her teeth but she bites less often now ...

Consider this: When you want to move your bird from his play top to his cage, are you trying to dominate him or do you simply have a different location for him in mind? How is this different than your bird's intention when he declines the offer?

The Point

The point of this article is not to suggest that parrots should be allowed to bite, scream, flee from our hands, or interact with only one person in the family. To be a successful companion, a bird should exhibit none of these behaviors, most of time. At issue here is how best to achieve a repertoire of good companion behavior with our pet birds.

Over the years, there have been many recommended strategies to decrease assumed dominance in pet parrots. For example, to control height dominance, lower your bird's perches to no higher than eye level of the shortest person in the house; to break cage dominance, don't pull your finger away when your bird is biting it; and, to nip flock dominance in the bud, never hold your bird higher than your heart. All of these strategies may have an effect on a bird's behavior but they are neither necessary nor desirable for the long run. More importantly, they do not represent best practices, regardless of what motivates our birds.

Counting both the authors' pet flocks combined, we own nine pet parrots ranging in age from 1 to 13 years old. Represented in these two flocks are Congo and Timneh greys, *Psittacus erithacus erithacus* and *P.e. timenh*, a Severe Macaw, *Ara severa*, an Alexandrine Parakeet, *Psittacula eupatria*, an Umbrella Cockatoo, *Cacatura alba*, a Budgie, *Melopsittacus undaulatus*, and a lovebird, *Agopornis*. None of them refuse to come down off their cage tops and all of them can be nuzzled and kissed on tiptoe by all family members including two

children. We continue to work with some of the younger birds to better express their dissatisfaction with their voices and not their beaks, and we continue to expand their confidence to interact pleasantly with all friends and strangers. None of this was accomplished overnight however all of this was accomplished in the complete absence of domination and force.

Insights and Strategies

The act and art of great teaching is largely the result of great observation and communication skills. With every interaction, both you and your bird are communicating to one another your personal wants, needs and boundaries. The goal is to use this communication to get the desired behavior by controlling the teaching sequences, not the bird. Consider changing your attitude from demanding compliance to being “blown away” by their willingness to cooperate! Don’t lose the feeling of awe that brought you to parrot ownership in the first place.

To devise specific strategies, focus on specific behaviors more than constructs. Insights about the inner workings of our parrots’ minds are a luxury, not a necessity, for successful teaching. Analyze the antecedents, that is, the events that occur right before your bird misbehaves and consider how they might be changed to facilitate cooperation. Carefully consider the consequences that follow each specific behavior and arrange them to reward the desired actions not the undesirable ones.

Let’s follow one example. Many of us have been frustrated by our bird’s refusal to step onto our hands from high perches or cage tops. We expect that a bird should comply because from our point of view there is nothing to fear and nothing to avoid. As with our friends’ daughter aloft on the top bunk, there are lots of good reasons why your bird should come down but apparently he doesn’t think so. Ask yourself, what is the goal: getting him off his cage at any cost or being the person he *wants* to come to? Depending on your goal, you will devise different strategies. Of course, we suggest that the goal should always be to avoid force, and facilitate and reward cooperation.

One mistake bird owners frequently make is asking for too much too soon. Don’t lose sight of the fact that stepping up when you “reeeeally” don’t want to is asking a lot of anyone. Arrange a teaching environment such that your bird is given frequent opportunities to practice complying with your request. Reward each and every act of cooperation. Ask him to step up often just to say “Hello good bird!” and set him down again to continue whatever he was doing. In this way he will look forward to stepping onto your hand as it signals attention without a cost. If the immediate consequence for stepping up is always being returned to his cage, your bird will be less willing to step up in the future. This is a way to inadvertently punish your bird for complying. When you do need to put your bird in his cage, allow sufficient time in your schedule to first reward him with a minute or two of attention or a treat for stepping onto your hand.

Program success by facilitating good behavior, that is, pave the way for cooperation. For example, make sure that you make requests at reasonable times, not while he’s deeply engaged in playing or eating. Ensure that being inside his cage is a desirable place to be by providing adequate space, toys and sufficient out of cage time. With thoughtful attention to these antecedents and positive consequences your bird will soon choose to be on your hand,

and stepping up at your request will become a habit. This is the time to expect your bird to step up from cage tops and high perches, even though he may have other things in mind.

Conclusion

We may never know what mental processes underlie our parrots' observable behaviors. From the human perspective, any resistance is easily misinterpreted as a struggle for dominance. Depending on our understanding about what motivates birds to behave in particular ways, one naturally chooses some strategies and ignores others. We believe that the quest for dominance is rarely an accurate description of what motivates a companion parrot's negative behavior. Regardless, the intervention strategies typically associated with this interpretation are themselves so domineering as to be senselessly damaging to the relationship you wish to have with your bird. Too often, the processes thought to underlie behavior are solely in the eye of the beholder. When this is the case, we move farther away from facilitating our parrots' companionability when we should be moving closer to a bird's eye view.

The authors wish to express their gratitude to Martha Hatch Balph, Ph.D., and Steve Martin for generously sharing their insights about bird behavior.

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The Future of Dog Training: Objective Inquiry

We have a rich and detailed understanding of the behavior of many parasitic wasp species. And the profusion of minutia on the asexual cloning of bdelloid rotifers is eye-popping. We have an increasingly profound understanding of the neurochemistry of learning and memory and roomfuls of research on genome mapping, embryology and evolutionary psychology.

By contrast, if one attends a conference on domestic dog behavior, there are few presentations of empirical studies addressing even our most basic questions about our best friend. The research void is mostly filled with a stream of engaging speakers promulgating personal opinions, catchy anecdotes and untested hypotheses based on their own experience. This free-for-all gives some the mistaken impression that we already have real answers and may actually slow down the acquisition of harder knowledge.

The field of dog training and behavior is at a crossroads: to enter the domain of the natural sciences or to continue to sequester itself and keep the free-for-all alive. The road toward the natural sciences requires setting a standard for what kinds of theories and information are presented at professional conferences and in professional publications.

Where Dog Training Departs – and Radically - From Science

My overwhelming personal experience tells me that the earth is flat. And, if I presented my case – day to day visual and proprioceptal experience, and any number of other observations I and my friends, colleagues and neighbors have had – to other people unversed in what science knows about the subject, my contention would align well with their own personal experiences. It would make good sense. It sure looks flat to me. Of course, we'd all be dead wrong. And, most importantly, I would not be allowed to present my "findings" at a geological or astronomical conference.

There are actually flat-earth *societies*, by the way, along with creation-science "texts" and psychic friends networks. All might demand to be heard at geology, biology and psychology conferences, on the grounds of courtesy, freedom of speech or popularity. However, mainstream science makes no apologies for not entertaining these ideas – they do not meet the standard of evidence. In dog training, however, personal experience and conviction along with being a sufficiently compelling or entertaining presenter, have been sufficient qualification to present at professional conferences or write for professional publications.

The Pitch

Imagine attending a conference five or ten years from now, in which objective evidence – real scientific research – is presented on questions such as:

- 1) What training techniques are successful on what types of behavior problems
- 2) What human teaching techniques work to reach course objectives in public classes
- 3) What are the collateral effects of the use of positive reinforcement and the use of aversives in dog training
- 4) What current behaviors or profiles predict future aggressive behavior

- 5) What kinds of practitioners – veterinary behaviorists, applied behaviorists or dog trainers – achieve the most success with which specific types of cases
- 6) What kinds of educational content most helps prevent relinquishment of dogs for behavior reasons to animal shelters and rescue groups

You may be thinking, “Hell, I KNOW positive reinforcement works better because I’ve SEEN dogs trained with aversives have been training R+ exclusively myself for 10 years with FANTASTIC results! I used to train with aversives and my results are far better now!”

There’s a difference between personal experience and objective research. Intuitions and knowledge based principally on collections of anecdotes may be on the money, partly right, or way, way off the money. The best way so far developed to determine the accuracy of anecdotal (or any other kind of) theory is science. And having spent a lifetime observing, interacting with, reading about and training dogs can even make me a *less* apt experimenter than if I had no strong personal convictions.

If we decide we really want our answers about the behavior and training of dogs on firmer ground, the tools of science are well developed and at the ready. Science provides means for addressing the plethora of factors that can interfere with our getting at answers: blinds, controls, confounds, replications, peer-scrutiny of all ideas put forward and measurements of likelihood that results are due solely to chance.

How Science Does It

The first step is some sort of observation about the world that results in a hunch about how the world works. For example, I may ponder “hmm, does going through doorways before the dog influence the incidence or intensity of aggression directed at family members?”

The next step is to frame this question in a testable way. One way would be to do an epidemiological survey of many, many dog owners and take careful note of whether or not the humans precede dogs through doorways and also what kind of aggressive behavior they’ve experienced. Another way would be to take a group of dogs that are aggressive toward family members – or aggressive to family members in certain contexts that are believed to be related to doorway passage – and divide them into groups. One group would be taught to go through doorways after humans, another group may have their aggression treated with another technique and a third group might receive no intervention outside of some time spent training the dog to do tricks. This step would require formal blinds to ensure that neither the families nor the trainers knew what the study was about. The next step would be to compare outcomes. The people evaluating outcomes – or interviewing the families about their reports of whether the problem was solved - would also be “blind,” i.e. have no idea which dogs received which interventions. Yet another experimental design would be to rear puppies to precede or follow their human family members through doorways and track them for a few years to see whether there are differences in frequency or intensity of aggressive behavior. Again, those evaluating outcomes would be blind to which group each dog was in.

After this, the study would be published, including all the details of its design, statistical methods and conclusions. This would then be scrutinized by other professionals who

understand study design, possible confounding variables and statistical methods. Any flaws in the research would be noted and more research done to better get at the question. Interpretations of the results might be cautiously drawn, further questions raised and further studies designed. Gradually a body of tentative knowledge would be built.

The Difference Between Constructs and Observations

While waiting for the boom in dog behavior research, we can all start drawing a clearer distinction in our minds and in our communications, between *constructs* and *observations*. We can all count the number of times a dog barks or measure how long he growls and how far way a given stimulus was. This is an observation. A construct, on the other hand, is an idea about unseen, unmeasurable mental or social processes that attempt to explain *why* he did it. These explanatory notions are “constructed,” that is, inferred from the observations.

The value of constructs is in their ability to allow us to chunk behaviors into efficient units based on underlying themes such as courtship or predation. A serious problem with constructs is that they can't be easily falsified. If a construct is appealing or has been repeated enough, this alone can ensure its survival, even if it is, as Friedman and Brinker say in their paper on the dominance construct in parrots, “an explanatory fiction.” Dog behavior is full of constructs that have been repeated so often they are accepted as gospel. Behaviors like effusive greeting, ease of training, and aggression toward family members are lumped under constructs such as desire to please and dominance.

Making Dogs Sexy

There just isn't much out there on dog behavior. We glean occasional bits of information when dogs happen to be used as research subjects for other purposes, but the interest – and attendant money available – in dog behavior and training per se has been paltry. So, we madly borrow constructs from wolf behavior. We (hopefully) bone up on and diligently apply what is known about the operant and classical conditioning of animals in general. The good news is that we acknowledge the importance of knowing something about these animals that are our family members. They often puzzle us and sometimes bite us. What's missing is properly funded regular research into their behavior and on which particular tools from operant and Pavlovian theory we should use at which times to modify it.

So, how do we make dogs a sexy research area? A post-graduate scholarship funded by APDT on domestic dog behavior and training research springs to mind. Also, foundations grant money to research into all manner of inquiry and might be persuaded to fund existing research fellows to look into questions about dogs, the way a recent paper in the journal *Science* looked at the superiority of dogs to chimps in reading social cues. And, who better to make foundations aware of the knowledge void than our professional organization? In the meantime, there are things individuals can do. The Academy graduate e-mail list recently began a research paper review project, wherein a paper is read by everyone and discussed until fully understood and then another is selected and the process repeated. This could be done on a larger scale. We could all demand tighter screening of conference proposals and newsletter submissions. And, of course, we could change the rallying cry of “every idea should be heard” to “what's your evidence?”

Richard Dawkins on Pseudoscience and Critical Thinking

It really comes down to parsimony, economy of explanation. It is possible that your car engine is driven by psychokinetic energy, but if it looks like a petrol engine, smells like a petrol engine and performs exactly as well as a petrol engine, the sensible working hypothesis is that it is a petrol engine

It's been suggested that if the supernaturalists really had the powers they claim, they'd win the lottery every week and be rich or donate the proceeds to charity. I prefer to point out that they could also win a Nobel Prize for discovering fundamental physical forces hitherto unknown to science. Either way, why are they wasting their talents doing party turns on television?

Consider this. If a paranormalist could really give an unequivocal demonstration of telepathy (precognition, psychokinesis, reincarnation, whatever it is), he would be the discoverer of a totally new principle unknown to physical science. The discoverer of the new energy field that links mind to mind in telepathy, or of the new fundamental force that moves objects around a table top, deserves a Nobel prize and would probably get one. If you are in possession of this revolutionary secret of science, why not prove it? Of course, we know the answer. You can't do it. You are a fake.

With so many mindbytes to be downloaded, so many mental codons to be replicated, it is no wonder that child brains are gullible, open to almost any suggestion, vulnerable to subversion, easy prey to Moonies, Scientologists and nuns. Like immune-deficient patients, children are wide open to mental infections that adults might brush off without effort.

(on astrology) Note how little it means to say something like "Uranus moves into Aquarius". Aquarius is a miscellaneous set of stars all at different distances from us, with no connection to each other except that they constitute a (meaningless) pattern when seen from a certain (not particularly special) place in the galaxy (here). A constellation is not an entity at all, not the kind of thing that Uranus, or anything else, can sensibly be said to 'move into'.

Scientists are required to back up their claims not with private feelings but with publicly checkable evidence. Their experiments must have rigorous controls to eliminate spurious effects. And statistical analysis eliminates the suspicion (or at least measures the likelihood) that the apparent effect might have happened by chance alone.

Paranormal phenomena have a habit of going away whenever they are tested under rigorous conditions. This is why the \$740,000 reward of James Randi, offered to anyone who can demonstrate a paranormal effect under proper scientific controls, is safe

I think it's important to realize that when two opposite points of view are expressed with equal intensity, the truth does not necessarily lie exactly halfway between them. It is possible for one side to be simply wrong.

Recommended Reading

Richard Dawkins: *The Selfish Gene* and *Climbing Mount Improbable*

Steven Pinker: *How the Mind Works* and *The Blank Slate*

Matt Ridley: *The Red Queen*, *Nature Via Nurture* and *The Origins of Virtue*

Carl Sagan: *The Demon-Haunted World: Science As a Candle in the Dark*

Robert Wright: *The Moral Animal*

