

Both Ends of the Leash

Beauty is Only Fur Deep

Patricia B. McConnell

They sat white-faced in my office, as afraid of my advice as they were of their own dog. They loved him dearly and only half-jokingly called him their “other kid.” The thought of putting down such a beautiful animal was simply unbearable. But their fear of him was growing stronger than their love. Kinko's growling and barking at visitors was bad enough, but now he'd become aggressive toward them, too. He'd bitten each of them when they'd tried to pull him back from the door when company came. The most-recent incident, when he sank his teeth deep into Carol's forearm and shook it as though he'd caught a rat, was the last straw.

During the evaluation, I asked about Kinko's early history. “Do you know anything about the behavior of his parents?” I asked. They shook their heads from side to side. “No, we don't,” Paul said. “Well, we did see them from a distance,” his wife Carol explained, “but they were barking and snarling so much we were afraid to get anywhere near them, so we really couldn't say anything about their behavior.”

Sigh. I wish this was an isolated case of particularly naïve owners, but in one sense, it's not. Kinko's owners weren't the first clients I've seen who didn't relate the behavior of parent dogs to the behavior of their pup. I've worked with multitudes of intelligent, articulate people – from physicians to CEOs to administrative assistants – who sat in my office and made it clear that they had no concept of the heritability of behavior. Everyone knows that retrievers retrieve and that herding dogs herd, but beyond that, the genetics of behavior is a great mystery to the average dog owner. My clients knew enough to expect that their Labrador would love to play ball, because that's what Labs are supposed to do. But they didn't know enough to relate the barking and snarling of the pup's parents to the behavior of their offspring once he grew up.

As I write this, I'm second-guessing the topic of this column. Surely everyone knows that the best



predictor of a dog's behavior is not his breed or his soulful brown eyes, but the behavior of his closest relatives. Am I wasting our time, stating the obvious? And yet, I'm not making up all those clients. Good people, smart people, dog-loving people, who tell me, day after day, week after week, that no, they didn't think to ask about the disposition of the pup's sire before they brought his daughter home.

Examples of behaviors that are passed on from parent to pup are endless. My first Border Collie, Drift, expressed excitement by lifting one forepaw at a time, alternating left and right in a staccato tap dance. I've had a lot of dogs since, and they all have their own ways of expressing excitement. Tulip the Pyrenees spins in a circle, eyes shining like firecrackers. Lassie dashes off to pick up a toy and returns it to me, shaking it furiously. But only Drift's son acted just like his father when I said “Let's go to the barn,” tap-dancing like Fred Astaire in his black-and-white furry tuxedo.

Who would expect that the way front paws move when a dog is excited would be heritable? But then, who expected that identical human twins who were raised apart would end up living in houses painted the same color, wearing unique rings on the same fingers and marrying spouses with the same name?

It's amazing what behavioral tics are heritable in dogs and people. The offspring of one of my Border Collies “talks” just like her mom, mouthing a list of vowels (“Aiy-ee-I-oh-you!”) when excited. Two different people, at two different times, have commented that I work a jigsaw puzzle just like my mother. But it's not just trivial traits that are passed

on from parents to offspring. Some heritable behavioral patterns make the difference between a happy dog owner or someone living in dog-owner hell.

A multitude of traits appear to run in family circles, from dog-dog aggression to possessiveness over their owner's lap to a tendency to redirect aggression to the owner. Inherited traits aren't all negative, by the way; sweet and docile natures are just as likely to be passed on from parent to offspring as problematic ones.

Of course it's not just genetics that influences behavior. Early development and learning play equally important roles. The dual importance of genes and environment hasn't always been understood. For years American and European behaviorists and ethologists fought about "nature or nurture," arguing that one or the other played the most important role in shaping animal behavior. Fortunately for us and our dogs, that foolish argument has been over for decades, with all but the most radical acknowledging that behavior is a recipe in which the ingredients and the method of combining them are equally important.

A wonderful example of the interaction of genes and environment comes out of Stephen Suomi's laboratory at the National Institute of Health. Suomi, a primatologist who specializes in behavior, learned early on that the Rhesus macaque monkeys he studies are each born with their own unique personalities. Not only has he identified certain individuals (about 10 percent of the population) who are impulsive, a bit aggressive and generally less socially competent than others, he's found that these individuals are born with these traits. They are mediated by the amount of usable serotonin, a neurotransmitter, in the brain, and the amount of serotonin is partially a function of the genes the monkey inherits. So here we have individuals predisposed to get into trouble and to be aggressive when they don't need to be, driven by their genetically-determined brain chemistry. What makes this especially interesting is that the environment in which each individual was raised had an important influence on to what degree this particular trait was expressed. A really good mom could overcome most of the effects of low-serotonin metabolism, while monkeys who didn't have wonder moms more influenced by their genetics. It's a

perfect example of the blending of nature and nurture, and how genetics and environment both make big difference in how an animal behaves.

One of the encouraging implications of the dual importance of nature and nurture is that genetically mediated tendencies such as possessiveness and aggression can often be influenced by a solid knowledge of the "nurture" part of the equation. Applied animal behaviorists like me would be hard pressed to help many of our clients without a firm understanding of operant and classical conditioning. But as much as I love helping my clients, I'd rather help prevent serious and heart-breaking problems in the first place. If Kinko's owners had known a little more about the "like father like son" effect, and if the breeder had paid as much attention to disposition as she had to healthy hips, the owners wouldn't have been in my office, ashen-faced and exhausted, trying to decide whether or not to kill their four-footed best friend.

In spite of the significant influence of genetics on behavior, in this country there is an unfortunate lack of awareness of such an important, and in some senses, obvious fact. We all seem to "know" that behavior is strongly influenced by genetics – "a chip off the old block" and "the apple doesn't fall far from the tree" are well-worn folk wisdoms that reflect this understanding. The problem seems to be that we don't apply it when it's needed. If Kinko's owners had thought about it, they would never have taken a puppy from parents of such dubious dispositions.

And the breeder? I don't know the specifics in this case, but I could fill a concert hall with the number of "responsible" breeders who select for breed type, good structure and great coats and who carefully screen out heritable diseases...period. Time and time again, little attention is paid to the disposition of their breeding stock. I'm all for breeding for sound structure and good health, and I love a gorgeous dog as much as the next person, but, to add one more old-fashioned adage, "pretty is a pretty does."

Often, people who should know better focus exclusively on structure and physical health and ignore behavioral tendencies that can come back to bite them in future litters. In this case, I mean that literally. Our fascination with looks is so strong that it deserves its own column (it seems that our focus on attractiveness is heritable as well!) and it's not always

a bad thing. But we desperately need to reinforce breeders who do breed for good dispositions, and we need to educate dog owners to make choices based not just on looks and overall physical health, but also on behavior.

Last I heard, Kinko hasn't bitten since he visited my office, and his behavior to visitors is greatly improved. But his owners know they'll always have to manage him and that he'll never be quite the dog they wanted. Next time, they'll know not to be seduced by a handsome face. You can help prevent future Kinkos by passing on this column to anyone you know who is about to breed a litter, or about to get a new dog. Heck, send it to anyone you know who's dating – wouldn't we all be better off if we paid more attention to behavior than to looks, regardless of the species?

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