

More than just noise

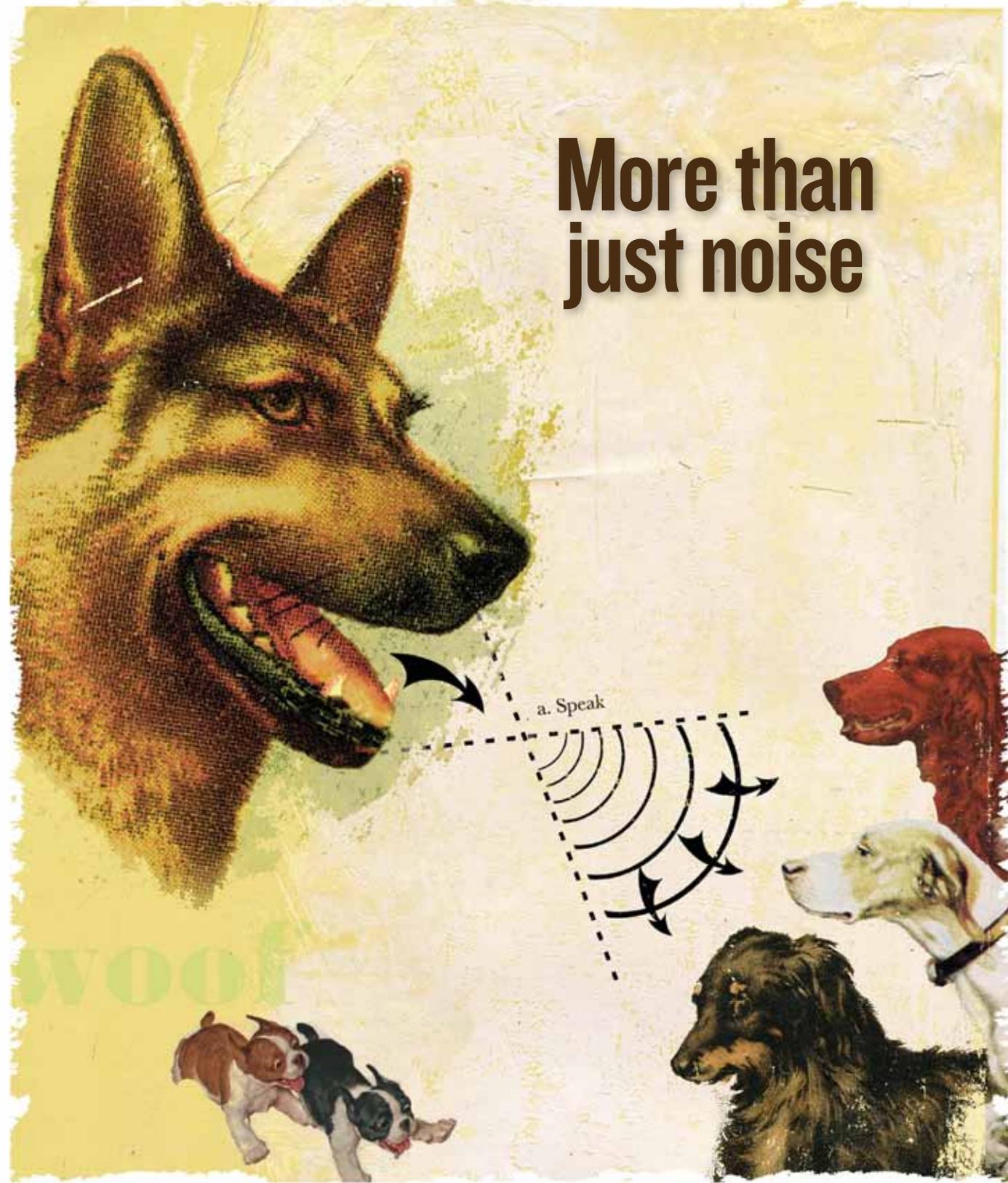


Illustration by Jennifer Renninger

THE SOUNDS OF DOGS



By Julie Hecht

A FRIEND SUGGESTED THAT ONE of the reasons we love dogs so much is that they can't talk back. But I wonder whether that's true. Sure, a dog won't tell you, "You really shouldn't have that second cookie," but does that mean dogs are not talking back?

Dogs are anything but mute, and while we usually focus on wagging tails and beguiling eyes, vocalizations—among them, barks and growls—provide us with another window into dogs' everyday experiences.

Social species are known to be much noisier than animals who lead solitary lives. Snow leopards roam the mountains of central Asia in near silence, but groups of monkeys do a lot of high-volume chattering. So, given that dogs and their wild progenitor, the wolf, are über-social, it's no surprise that both produce a wide range of vocalizations: they bark, whine, whimper, howl, huff, growl, yelp and yip (among other nuanced sounds). From the earliest moments of their lives, dogs and their canid relatives produce tonal yelps and

whines, and atonal barks and grunts appear in the first few weeks of life in conjunction with the onset of social behavior.

There's a big difference between the bark of an adult dog and that of an adult wolf, however. Dogs seem to play every instrument in the orchestra, hitting the highs of the flute and the lows of the tuba, sometimes with the duration of a Wagnerian opera. Plus, there seems to be no context in which a dog won't bark: They bark when alone and with other dogs. Some bark before, during and even after a ball is thrown. A car goes by or the doorbell rings and barking ensues. In contrast, wolves bark less frequently and in fewer contexts, primarily for warning or defense.

MEANINGS BEHIND THE MESSAGE

What do canine vocalizations mean? Animal behavior researchers have only recently begun to chip away at this question. As Monique Udell, PhD, who is currently a faculty fellow at the University of Oregon, reflects, "Vocal behavior in other species has received a

lot of detailed attention. In birds, we've looked down to the note sequence and explored tiny variations. Vocalizations are such a prominent feature of dogs, and there is a lot to learn." To date, dog vocalizations have not received comparable scrutiny.

That being said, research that *has* been conducted on the subject is incredibly insightful. Take growls, which, it has been shown, dogs use to accurately judge another dog's size. How in the world do we know that? Tamás Faragó, PhD, and his colleagues at the Family Dog Project at Eötvös Loránd University in Budapest (familydogproject.elte.hu) presented dogs with two images of the same dog: one was true to size and another was 30 percent larger or smaller. Dogs then listened to a pre-recorded growl, and most dogs looked at the image of the full-size dog rather than the altered image.

Growls appear to be meaningful in other ways as well. In another study, Faragó and his colleagues used some clever trickery to explore how dogs respond to growls recorded in different

situations. In an apparently empty room, a dog was allowed to approach a bone. Unbeknownst to the dog, there was a speaker hidden behind the bone, and as the dog approached, the sound of a “play growl,” a “stranger-approaching” growl or a “food-guarding” growl was transmitted through it. Dogs were likely to take the bone when hearing the “stranger-approaching” or “play” growl, but the food-guarding “my bone” growl deterred them. Even though the food-guarding and stranger-approaching growls sound quite similar (at least, to our ears), they prompted different behavior.

Many studies investigating vocalizations are based on prerecorded samples, but it is important to remember that vocalizations and visual signals usually go hand-in-hand. In the stranger-approaching context, dogs growled with closed mouths, whereas in food-defense situations, they showed their teeth and pulled back their lips.

While we tend to take notice when we hear a growl, we often dismiss barking as meaningless noise, as though it is simply an item on a dog’s daily checklist: “Take a walk, have breakfast, bark.” Before the turn of the century, that was the prevailing view among researchers and theorists. At most, barking was thought to result from social facilitation—one dog barking prompts other dogs to bark—or maybe attention-seeking, or even rivalry or defense.

Only recently have researchers begun to investigate whether barks produced in different contexts vary in their acoustic parameters (such as tone and pitch). Scientists theorized that if—like

growls—barks displayed consistent differences, they might have a more specific communicative function, perhaps even be associated with a dog’s internal motivational or emotional state. For example, some barks might convey aggression while others might convey friendliness.

In one early study, Sophia Yin, DVM, MS, recorded a variety of breeds barking in response to different situations: a stranger ringing the doorbell (“disturbance barks”), separated from an owner (“isolation barks”) and play. Yin found that the barks did indeed have different acoustic properties. Disturbance barks were harsher and lower in pitch with little amplitude modulation, while isolation and play barks were pitched higher and had greater tonal and higher frequency and a wider range of amplitude modulation. More recent studies confirm that dog barks follow particular patterns. For example, a dog barking at a stranger sounds very different from a dog barking before going on a walk.

But do these vocalizations carry meaning? They do for dogs. When dogs in one study listened to barks recorded in a new context or from a new dog, they gave more attention to the unfamiliar bark. This suggests that dogs can detect that some barks are different from others, though scientists are still exploring ways to determine how exactly

they perceive and process that information.

Humans, too, can decipher barks. Whether or not they’re experienced with dogs, people are quite good at classifying barks into their appropriate contexts and attributing them to perceived emotional states. After listening to randomly played recordings, people describe isolation barks as full of despair, while barks from a play session are said to be happy. Our ability to do this starts early; by age 10, children are able to assign different-sounding barks to the correct context.

Today, we can distinguish the acoustic properties of certain barks so accurately that we’re able to program computers to categorize them (which confirms that computers will one day take over the earth; personally, I hope Ryan Gosling will be there to save us).

RECOGNIZING THE PATTERNS

How do we perceive meaning in the vocalizations of another species? Apparently, dogs and humans have more in common than a love of shoes. Through their shared mammalian histories, canine and human vocalizations follow similar acoustic patterns. High-pitched and more tonal noises convey friendliness, affiliation and “come here,” whereas low-pitched and less tonal sounds convey aggression and “go away.” These rules and tendencies, which are found across mammalian and avian species, govern our own communication and emotional expression. When talking to infants, we generally use a high-pitched “baby” tone rather than

lower-register sounds.

A recent publication by Kathryn Lord, PhD, offers an additional take on why dogs bark. She and colleague Ray Coppinger, PhD, investigated the contexts in which other species use bark-like sounds: “When other species emit their version of a bark, they are usually in some sort of conflicting situation. For example, an animal is at a nest or den and observes some sort of threat. Customarily, the animal would run, but because of its situation, it can’t, so it barks. We think [that] when dogs bark, they are making these sounds in association with an alert or an internal motivational state of conflict.”

In a sense, Lord and Coppinger argue that “conflicted” should be dogs’ middle name. They suggest that dogs bark in so many different situations because they often find themselves conflicted: they are in the house and want to go out, they are out and want to come in. And it may be that, through the process of domestication itself, dogs have become more prone to put themselves in these sorts of situations. In comparison with wolves, dogs have a substantially decreased flight distance; something can easily get too close before the dog feels conflicted about how to respond.

Udell suggests that barking doesn’t have to be whittled down to one simple explanation. “If you look at communication and vocalizations in a wide range of species, it usually isn’t about one thing. Chickadees have ‘alert’ calls, but they also have songs, and the songs themselves can mean different things in different contexts. I think the same could hold true for dogs.”

SO ANNOYING

These general frameworks are just part of the story. Genes and environment affect all things dog, including vocalizations. In their seminal study of dog behavior and genetics, Scott and Fuller note that when Basenjis, a typically “barkless” dog, do actually bark, they generally produce only one or two low “woofs.” On the other

hand, “the maximum number of barks recorded for a Cocker in a 10-minute period was 907, or more than 90 a minute.” Why the *Guinness Book of World Records* was not contacted is beyond me.

But genes aren’t everything. As Susan Friedman, PhD, a pioneer in the application of applied behavior analysis to captive and companion animals and a psychology professor at Utah State University, explains, “While Shih Tzus as a group tend to display less barking than Miniature Poodles, that doesn’t mean barking in Miniature Poodles is impervious to change. And I’ve certainly known individual Miniature Poodles who are quiet and individual Shih Tzus who are barksy, both based on their current situations. The individual always beats any generalization.”

Dr. Yin’s study of dog barks concurs. Even within breeds, she found variations in who barked and when. Rudy and Siggy, 11-year-old German Shorthaired Pointers, both barked in the disturbance context, but when alone, Rudy did not bark and Siggy had lots to say.

The effects of the social environment on dog behavior can be important because sometimes, dogs just go with the flow. On The Bark’s Facebook page, Bev Morey of Kansas commented, “After attending day care each afternoon, my Weimaraner now barks at anything and everything. So annoying.”

“So annoying” is one of the challenges of barking. While all vocalizations, including barking, are generally seen as normal elements of dog behavior, barking is one of dogs’ less-appreciated attributes. According to Laura Monaco Torelli, CPDT-KA, KPA CTP, director of training at Animal Behavior Training Concepts in Chicago, “Barking can be especially challenging for those in urban settings, as they live in close quarters with neighbors.” Owners of barking

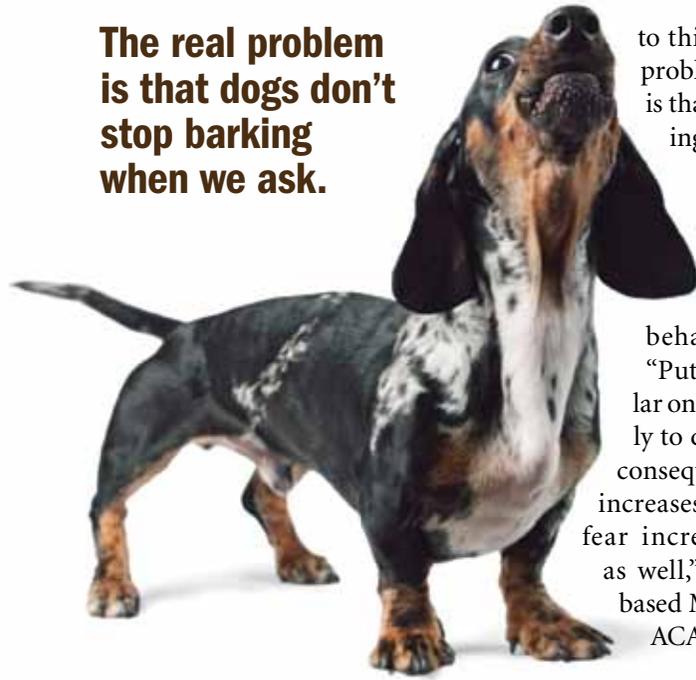
“When we ask, ‘Is barking a behavior problem?’ the [next] question is, ‘For whom?’”



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Amanda Jones

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to think that barking is the problem. The real problem is that dogs don't stop barking when we ask."

So-called "quick fixes" can make barking worse, particularly if the underlying reason for the behavior isn't addressed. "Putting an anti-bark collar on a fearful dog is unlikely to decrease barking if the consequence [shock or spray] increases the dog's fear. If the fear increases, barking could as well," explains Maryland-based Mary Huntsberry, MA, ACAAB.

of staying power. "It seems that owners unintentionally reinforce the barks produced when a dog is around food or toys, and these become the begging barks of that dog," says Faragó.

Monaco Torelli agrees. "If a dog learns that the noise in the hallway goes away when he barks, barking becomes an effective behavior. Barking is followed by the consequence of the noise in the hallway stopping."

Owners should focus not on eliminating barking altogether, but on reducing it to levels they find appropriate and livable. When she meets with clients to discuss their dogs' barking issues, Monaco Torelli asks questions such as, "How many barks is okay? What's excessive to you?" This, she says, gives the trainer a good starting point from which to develop a plan to teach the client how to reshape a dog's barking behavior. Trainers and owners discuss acceptable barking, and then implement techniques to achieve desired levels in each context.

Friedman shares the way she manages her own dog's barking: "We live in the country, and when we let the dogs out, they bark at the deer for a number of seconds. Then we say, 'That's enough, thank you,' and they are quiet and we praise them." She adds, "It's a [mistake]

STRATEGIES FOR CHANGE

So what *can* dog owners do about barking? Before you get carried away, consider whether or not action is even required. Friedman advises taking a step back. "When we ask, 'Is barking a behavior problem?' the [next] question is, 'For whom?' Barking certainly is a problem when people say it is, and for dogs, it is a problem when they are spending so much time doing it that it eclipses other healthful activities."

Barking can be managed and modified, so if you want to influence your dog's vocal style, it helps to start early and be observant. Teaching dogs the boundaries of acceptable vocalizations from an early age will pay off for everyone; when dogs are young, barking might be cute, but as they age, the cute factor tends to wear off. If the behavior is already in place, there are ways to alter it, Huntsberry observes. "It helps to do a functional analysis. During an extensive interview, I identify what happens immediately before (antecedent) and after (consequence) the unwanted behavior so I can identify the trigger and what maintains it."

Monaco Torelli focuses her attention on the dog-human relationship. "When owners are frustrated by their dog's behavior, we show them some

immediate training goals and success points so they see that their dog can do what they want them to be doing, instead of what they don't want them to do. This helps them rebuild their bond with their dog."

The takeaway message is that barking is a nuanced and flexible behavior, and relationships can grow by paying attention to what your dog's vocalizations mean. And if you're on a post-holiday diet and want to train your dog to bark incessantly whenever you make a move for another slice of cake, well, that's just good teamwork. **B**

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