

Is Dog Barking Similar to Human Language?

Have you ever felt that your dog was trying to tell you something? Comparisons of canine vocalizations with human speech indicate you're not losing your mind after all. The Family Dog Project at Eötvös Loránd University in Budapest has uncovered a rich canine communication system. Some evidence even suggests dogs lie to each other. So, what is Fido trying say?



Every Dog Has His Say

Everyone at some time, on TV or YouTube, has heard a dog mimicking human speech; perhaps a word or even a phrase like "Ah wuv you." This mimicry is a learned trick, but isn't speech, per se. Dogs, like many other animals, do possess a capacity for speech though. In 1999 Doctors Tobias Riede and Tecumseh Fitch published the results of an extensive bio-acoustic study "Vocal tract length and

acoustics of vocalization in the domestic dog (*Canis familiaris*)." They revealed that dogs are capable of forming formants, a sound wave property created in the vocal tract and a critical component of speech. This was groundbreaking stuff, because until then the scientific community, though it knew dogs responded to human formants, believed only primates could produce them. What's more, Riede and Fitch demonstrated that Fido's overall size determined the length of his vocal tract, affecting the dispersal frequency of his formants; thus, his size was encoded into in his barks, yips and growls. One question remained unclear, however: How well could other dogs interpret the message?

Growl For Your Supper

Years later, Dr. Péter Pongrácz and his colleagues at the Eötvös Loránd University in Budapest furthered the study of man's best friend with the Family Dog Project. Recording canine growling in a variety of situations, Pongrácz isolated three types: playtime growls, approach-of-stranger growls and object-guarding growls. Pongrácz then tested the growls -- playing recordings of each type from a hidden speaker -- on dogs confined in a room with a big, juicy bone. While some dogs veered from the bait on hearing any of the three growls, the majority stopped in their tracks only on hearing the object-guarding growls. This growl had the most demonstrable results, probably being the most basic and to the point that Fido ever gets: "Bite me, the bone is mine!"

Big Head Pitbull Seeks Same

In 2010 Dr. Pongrácz and his colleagues in Budapest teamed with fellow ethologists in Vienna. In this study people accompanied their own dogs to ensure the dogs remained calm. Pongrácz then played audio of object-guarding growls from various breeds and sizes, simultaneously projecting the picture of a dog along the left and right sides of the far wall. Pongrácz scaled the images, from about 52 to 62 centimeters. The dogs Pongrácz tested showed a quicker response and greater sustained interest when the dog from the audio more closely matched that of the image in size. When shown control images of triangles or cats, the dogs evinced disinterest or confusion. Pongrácz's behavioral work not only successfully

corroborated Riede and Fitch's study on vocal tract length and formant dispersal frequencies, but also established that dogs do indeed "get" the message: whether it's about claiming a bone or finding a mate, size matters.

Cogito Ergo Sum

This Budapest-Viennese collaboration demonstrated one other thing: in addition to crude speech, dogs have complex mental representations of the world, just as people do. An idea once laughable to the likes of French philosopher Rene Descartes, who theorized that dogs and other animals were basically organic, wind-up toys, devoid of mind or emotion. In fact, according to Brian Hare, a biological anthropologist at Duke University, "the social skills of dogs rival -- and in some ways exceed -- those of our closest primate relatives, chimpanzees, and may have much to tell us about how our own species evolved its social savvy." This of course leads to certain ethical dilemmas, which might need answers before long. After all, if your pooch does start talking, the "big trip" to the vet is bound to get awkward.

By Christopher F. Lapinel

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About the Author

Christopher F. Lapinel is an artist and freelance writer with work appearing in several

publications. He is also the co-owner of a holistic dog-training service in San Diego. Lapinel holds a master's degree in creative writing from the University of St. Andrews and taught English at LaGuardia Community College.