

Animal Communication

Some people are surprised when I say I study animal communication. “Are you teaching them to talk?” they ask, snickering. Truth be told, they’ve always been talking, but communication is a two-way street, and it’s time we learn how to listen.

For the most complex animal communication, many people will think of whales, and for good reason. Some whales have their own signature calls, like a name, and have different vocal dialects among different pods. Whale calls most closely resemble a lot of what many people consider communication since it’s vocal and intentional. Some whales have even been found to imitate human words with high accuracy. But not all communication is vocal.

Dogs are my favorite example. Their whole species coevolved with ours through the domestication process and as a result, they’ve fine-tuned their abilities to communicate with us. Dogs developed new facial musculature to create their signature ‘puppy dog eyes’, and their behavior modified from that of wolves. Dogs learn to read human facial expressions, maintain eye contact, and follow pointing or other gestures. They are constantly seeking information from us, and yet, there are still people out there who doubt that these canines have any complex thoughts of their own. Sometimes, I’m asked to help train a dog, and I smile because I know the real nature of the task, training the owners to learn how to speak the dog’s language.

When I tell people that I study syntax patterns in birdsong, they often look at me like I’m quite crazy. Some expect a literal translation for every tweet produced, as if I’m creating a bird-to-English reference book. Others doubt that bird song has any sort of grammatical structure, or if it does, they fail to see its relevance. I want to look at how language itself evolved, how subcomponents of it can be found across taxa, and how communication strategies and needs vary across species to adapt to their own unique Umwelt, or perceptual experience of the world around them. I can glean the surface of those answers by listening to the birds, but all some people extract from those songs is noisy chatter on a spring day.

Humans can communicate in a wide variety of ways. In fact, the majority of human communication is non-verbal. Many people interpret detailed messages from abstract art or interpretive dances. But people are not the only beings to appreciate such things. Did you know that honey bees dance to convey detailed messages about the distance and direction of flower patches so that other worker bees can travel to the located food source? Some researchers spend years studying the interpretive dances of bees so that they can understand how the messages are conveyed; the patterns and geometric angles used to signify specific meanings. Other people swat bees away and consider them pests that should be exterminated.

Sometimes, if I’m really ambitious, I’ll even teach people that plants communicate. Of course, the bright and colorful flowers are a welcome signal to bees to come pollinate, but there’s more to plant communication than meets the eye. When a plant is being predated, it can send special chemical signals from the leaves to the roots and trigger the release of defensive maneuvers, like increased production of a toxin. Nearby plants may interpret the signals as well and start producing the toxin before the predator even reaches them. The smell of fresh-cut grass on a summer’s day? That scent itself is a distress signal.

So next time you’re out in nature, smelling the flowers, watching the bees buzz by and listening to the birds sing while your dog lays out panting in the sunshine, maybe you’ll take a moment and wonder, *just what are they all saying?*