

Do You Speak Prairie Dog?

By Cheryl M. Reifsnyder, Ph.D.

Have you ever wondered if animals can talk? Scientist Con Slobodchikoff thinks about it a lot.

He knows how hard it is to understand a completely different language. He spoke only Russian when he moved to the United States as a child.

“I think that sensitized me to how people make assumptions about somebody who doesn’t speak their language,” he says.

Dr. Slobodchikoff studies Gunnison’s prairie dogs at Northern Arizona University. Like other prairie dogs, Gunnison’s are social rodents. Small family groups live in “towns,” where many burrows are located together.

Prairie-Dog “Words”

Prairie dogs communicate in several ways. They “kiss,” touching noses to identify family members. They share news with one another—something scientists call

**They
may be
barking
your
name.**

“social chatter.” Their alarm calls warn other prairie dogs of danger. These calls are the easiest form of prairie-dog communication to study because scientists can see what triggers the alarm.

“You have to know what the context is,” Dr. Slobodchikoff explains. The context—what’s

happening when the prairie dog gives an alarm—helps scientists figure out what a call means. Otherwise, he adds, “It’s just like somebody recording a conversation who doesn’t have a clue how to decode it.”

In his earlier research, Dr. Slobodchikoff had noticed that prairie dogs use a specific alarm call for each enemy. “We’ve looked extensively at the calls for coyote, human, domestic dog, and hawk,” he says. “Pretty much anybody who’s been listening for several hours can learn the differences between these calls.”

He wondered if alarm calls might be even more specific—if

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prairie dogs can describe what they see, identifying particular coyotes or humans.

“Warning!”

To answer this question, Dr. Slobodchikoff and his team planned a test. They wanted to see if prairie dogs used specific alarm calls for different humans, even if those people were nearly identical. One person watched from a blind—a towerlike hiding place. The others changed into nearly identical clothing, but each person wore a different-colored T-shirt.

One at a time, they walked through the prairie-dog colony. Except for shirt color and size differences, the four people looked similar. They acted alike by walking the same route at the same speed. As they moved through the colony, the hidden observer recorded alarm calls.

Because humans can't hear the difference between prairie-dog calls for “guy in orange” and “guy in green,” Dr. Slobodchikoff took the recordings back to his laboratory. “We need a computer to tell us what's going on,” he explains.

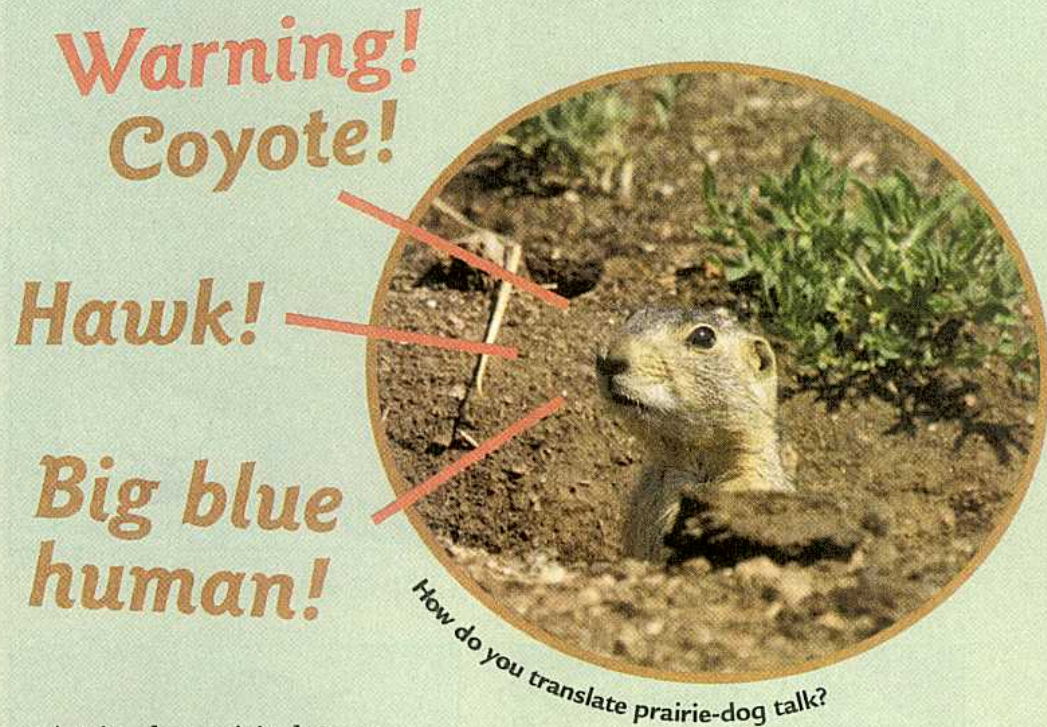
The computer translated the alarm calls into *sonograms*. These pictures represent whole sounds, including small details that humans don't hear. The sonograms showed four slightly different alarm calls for “human.” One specific part of the call changed when the shirt color changed. Scientists think that means the prairie dogs included color information in alarm barks.

Of course, coyotes don't wear colored T-shirts, so the research team made the next test even more difficult. This time, two people walked through the colony wearing the *same* clothes. Would the prairie dogs still be able to tell them apart?

Yes. The prairie dogs gave “human” barks for both people, but the barks were slightly different from each other. Specific parts of the alarm-call sonograms changed.

Dr. Slobodchikoff wondered if prairie dogs used size or shape to tell people apart. To test this idea, the four scientists wore bulky white lab coats to hide their shapes.

prairie dogs run to their burrow entrances. They watch the coyote so it can't sneak up on them. When a hawk alarm sounds, all the prairie dogs in the hawk's path dive into their burrows. (Hawks are speedier than coyotes, and the prairie dogs don't want to take any chances.) After hearing a human alarm, prairie dogs run to their burrows and almost all of them go underground.



Again, the prairie dogs gave four “human” alarm calls. They even gave the same four calls that they had already used (almost like names) for each of the four different people—but this time, they mixed up which call went with which person.

The closer people's sizes, shapes, and clothing colors became, the harder it was for the prairie dogs to tell the people apart.

Planning a Getaway

Why would prairie dogs want to tell their enemies apart? One reason is that different alarm calls allow prairie dogs to use the best escape route for each enemy.

For a coyote alarm, all the

Dr. Slobodchikoff showed that prairie dogs change their alarm calls to include size, shape, and color information. Those details can help them identify different kinds of enemies. Since every predator hunts differently, prairie dogs can plan a better escape if they know the intruder is “the one who waits outside burrows” (a coyote) or “the one who flies” (a hawk).

How much can prairie dogs tell each other? Dr. Slobodchikoff is working to answer that question. Meanwhile, if you visit a prairie-dog colony, listen up! They're probably talking about you. 🐾