



# Do Animals **DREAM,** and What Does That Mean?

By Stephanie Bouchard

One of Dr. Marc Bekoff's dogs, Jethro, was a yelper in his sleep. Sometimes, he'd be fidgeting, his nose going back and forth, and he'd give a little yelp. As Dr. Bekoff, author of *The Emotional Lives of Animals*, watched his dog moving in his sleep, he imagined what Jethro was dreaming about: "Oh, he probably just ran into Zeke, his best friend, and he's sniffing and he goes, 'Oh, there's Zeke, and I'm really happy!'"

We've all watched our pets sleeping and sometimes have seen them act out what we think must be happening in their dreams. What's really going on when our pets sleep? Are they dreaming? Do they dream just like we do? Can we ever really know if animals dream and what they're dreaming about?

While those who share their lives with animals don't doubt their pets dream,

scientists have studied and debated the subject of animal dreaming for years. Many studies have shown that a variety of animals—from cats and dogs to rats and spiders to birds and fish—dream or exhibit dream-like activity, although the scientists performing these studies may be reluctant to call the brain or physical activity observed during animal sleep "dreaming."

### So, what do we know about animal dreaming?

For humans and nonhuman animals, a simple definition of dreaming is that it is a subjective reenactment of experience that happens during sleep, with activity taking place in the brain and in the body, says Dr. David M. Peña-Guzmán, an associate professor of humanities at San Francisco State University and author of *When Animals Dream: The Hidden World of Animal Consciousness*.

The purpose of dreaming is a more contested issue among scientists, he says. Some argue that dreaming provides a means for human and nonhuman animals to hone survival skills, such as avoiding danger or catching prey. Others think dreaming is a way for animals to sort memories and process emotions.

### Do animals dream like we do?

Determining whether our cats and dogs—or other nonhuman creatures—dream like humans do is tricky, says Dr. Peña-Guzmán. "There is a lot of human-centric thinking in dream science," he says. "If you begin from the assumption that only humans dream, then you're going to miss a lot of appearances that dreaming makes across the evolutionary tree."

Take the reliance on rapid eye movement (REM) sleep, for example. Some

scientists use REM as an indicator that dreaming is or isn't taking place because there is a correlation between rapid eye movement and dreaming in humans.

Some animals have REM sleep, and some don't. Just because an animal doesn't exhibit REM sleep doesn't mean they aren't dreaming, says Dr. Peña-Guzmán. Not all animals are as visually oriented as humans are, and they may not exhibit rapid eye movement during sleep. Instead, if they rely on their whiskers to navigate, like cats and rats do, they may exhibit rapid whisker movement.

He also notes that while dreaming often occurs during REM sleep, it also happens during non-REM sleep, so it would be a mistake to depend on the occurrence of REM sleep in nonhuman animals to define whether they are dreaming or not.

There is also the reality that nonhuman animals experience the world differently than humans do, and that influences their sleep/dream life. "If you're looking for an expression that is uniquely human, then you're only going to find it in human beings," Dr. Peña-Guzmán says. When considering animal dreaming, it's important to be open "to the fact that other species dream in ways that are very, very unlike human dreaming, and that can be because they have very different bodies and very different minds [or] because they have different sensory modalities that we don't have."

#### What do animals dream about?

While we can't ask most animals what they're dreaming about, we have clues. Animals, such as gorillas, who have been taught American Sign Language, have been able to communicate to humans the content of their nightmares, such as witnessing the death of a parent at the hands of hunters and traffickers. Mapping the brain activity of birds singing

during the day and their brain activity while they're sleeping has revealed that birds "rehearse" their daytime songs in their sleep.

And countless unintentional "citizen scientists" have recorded and posted videos of their dogs, cats, rabbits, and other pets sleep-hunting or sleep-running—behaviors that suggest the pets are acting out what they are dreaming about.

"What I like about talking about animal dreaming is to open the door [to the possibility] that some of the things we think they're doing, they're doing," says Dr. Bekoff, who's also an ecology and evolutionary biology scientist and professor emeritus at the University of Colorado, Boulder. "Every now and again (during sleep), you'll see their tail move, and a lot of people will say, 'Well, it's just a reflex.' Well, it might be. But I don't think we should reduce the possible content of a dog's dream just because we can't ask them what they were dreaming about."

Is it important for us to know if our cats and dogs and other animals are dreaming and what they're dreaming about?

Does it really matter?

#### What does animal dreaming mean for us?

The more we know about animal dreaming, the greater our understanding of how they experience the world, and that, says Dr. Peña-Guzmán, presents opportunities to think about how animals are treated in our society and what protections should be extended to them. "Dreaming," he says, "gives animals moral status."

"Even if we don't know anything about an animal other than the fact that it dreams—just from that fact—we know that it has a subjective point of view and that it has an emotional profile—and once those two things [are known], it's really difficult to make the argument—in fact, I think it's impossible to make the argument—that the animal doesn't deserve legal and moral protections."

*When not walking her cat on leash around their yard in Maine, Stephanie Bouchard writes about pets and healthcare.*

