

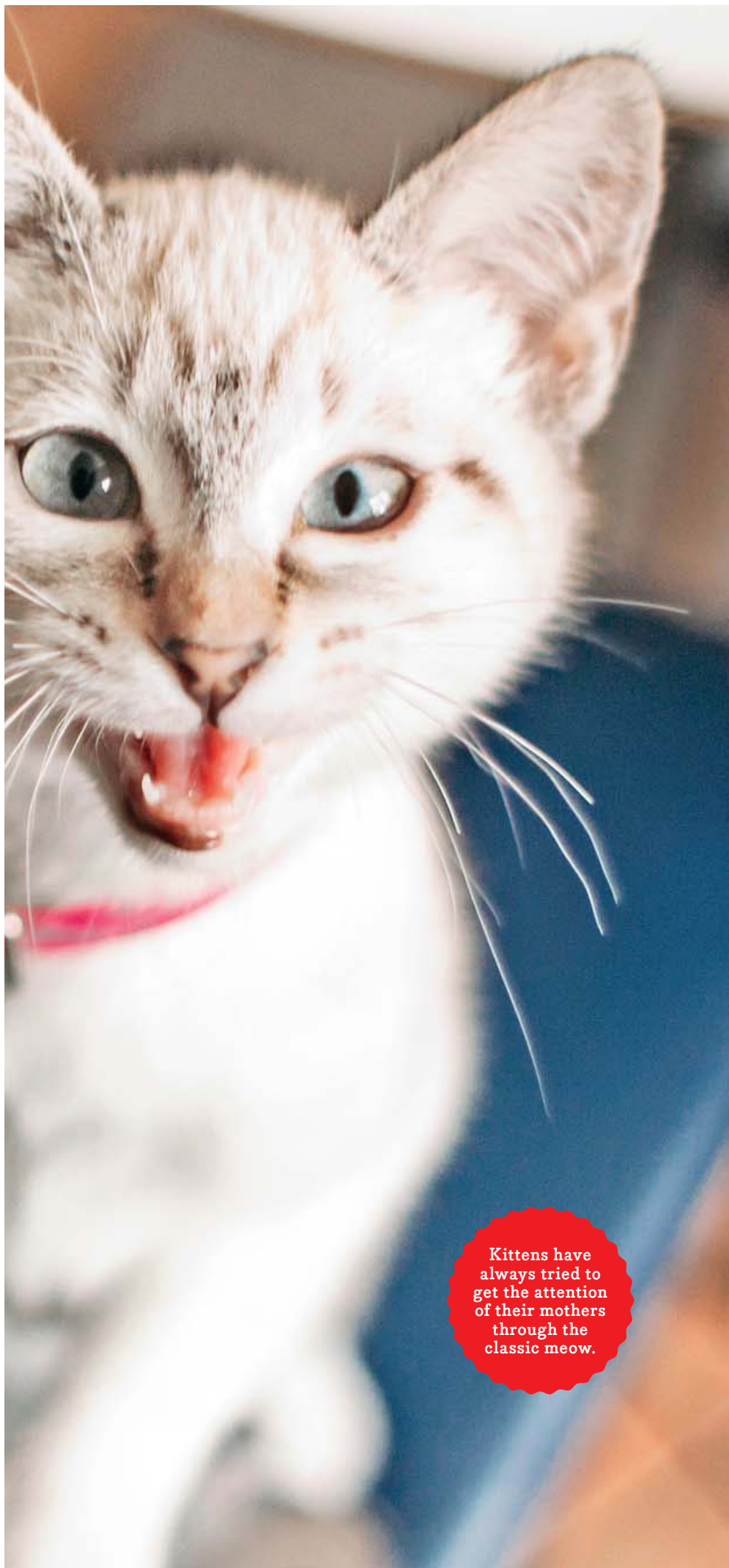


KITTY CAT CHAT

You Had Me at Meow

How the meow became the universal language for cats vocalizing to their humans. **BY JOELLE RENSTROM**

This kitten is trying to prompt its human for some food and water.

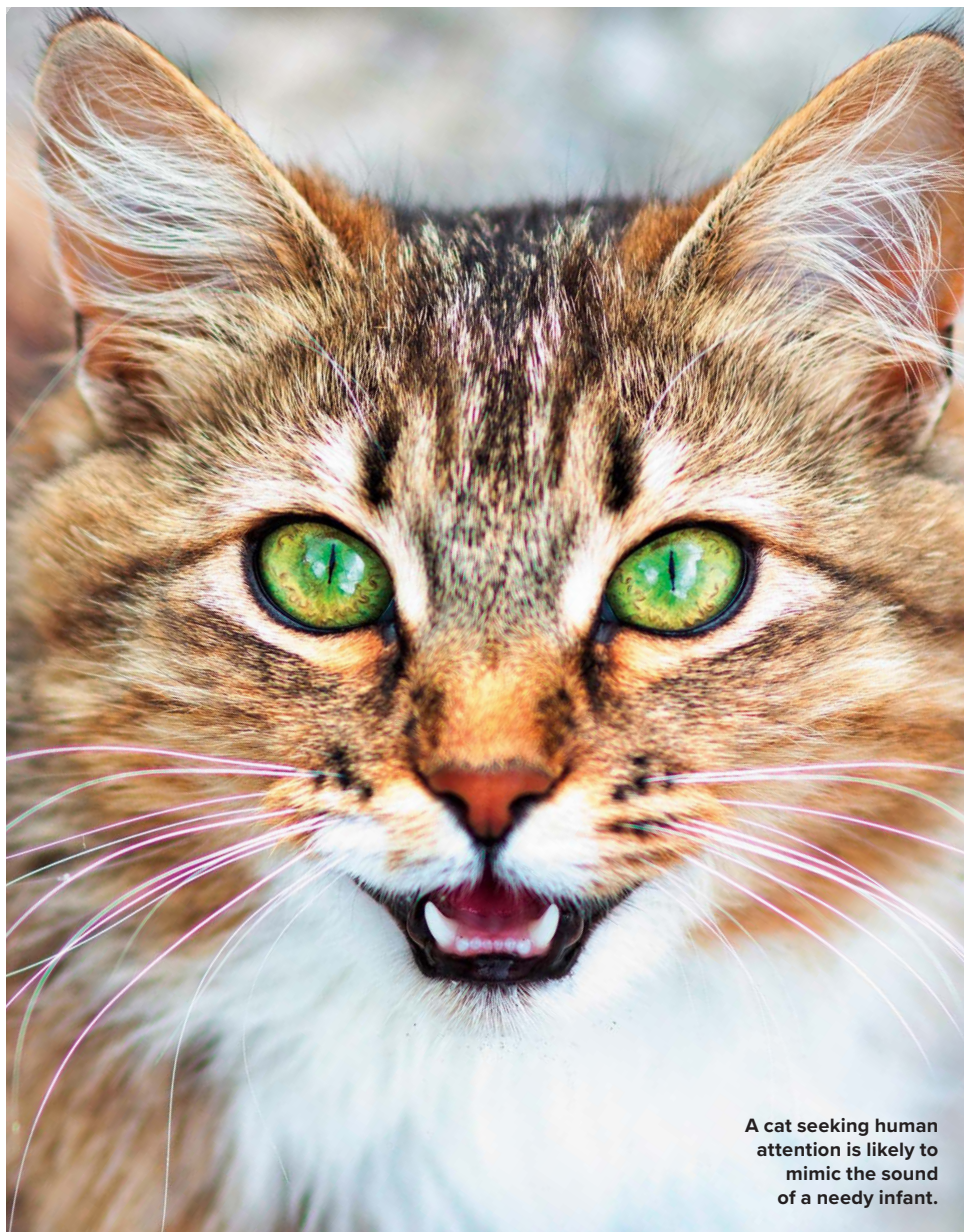


Kittens have always tried to get the attention of their mothers through the classic meow.

My cat Zola is a talker. When I get home from work she greets me at the door meowing, as though she has big news about her day. Her sounds end with exclamation points—there’s no mistaking her excitement. Other times, Zola’s meows clearly demand food, urgent and impatient. When she’s dozing on my chest and I sneeze, her soft squeak indicates irritation. Frequently, Zola sounds more like a bird than a cat—she trills and chirps in short melodic bursts. Often I meow back at her, and other times I speak in words (“You went where today? Really?”). I have audio clips of the two of us conversing for minutes on end.

Zola’s chatty nature is one of her most endearing traits. When we “talk,” I’m not sure if she thinks we’re communicating about something specific, but she clearly knows we’re in conversation and she seems to enjoy it. Was Zola born a talker? Did I yammer at her so much when she was a kitten that I inadvertently trained her to reply? Did human domestication catalyze the language of cats?

Susanne Schötz, associate professor of phonetics at Sweden’s Lund University, specializes in feline vocalizations and human-cat



A cat seeking human attention is likely to mimic the sound of a needy infant.

communication. She doesn't believe meowing began with domestication and says it might appear that way because of how often adult cats meow at humans. However, cats do meow at one another when they need or want something. Schötz says newborn kittens learn this method of signaling needs to their mothers and that "adult cats sometimes use meow-like sounds when looking for a partner or a playmate."

LESSONS AT HOME

Domestication taught cats that meowing is the best way to communicate with humans. Our senses aren't as sharp as those of cats, and we might need other signals because our noses aren't

as good, or our eyes are focused elsewhere, so cats have learned that using sound to get our attention is the best bet. Domestication also may have changed the quality or timbre of cats' meows. Specifically, the meow "often resembles the cry of a small child: it can be equally loud, of similar pitch [often quite high] and usually has the same strained voice quality," Schötz says. Humans are biologically programmed to respond immediately to these sounds, so mimicking a human child's cry is an incredibly effective attention-getting mechanism. Perhaps not surprisingly, cats leverage human biology to get what they want.

Our felines are also primed to receive communication from us. According to research, a cat can

identify its owner's voice and will have a greater observable response to it than to someone else's voice. But unlike dogs, who tend to walk over to their owners, cats demonstrate responsiveness by turning their heads or perking up their ears. In other words, your cat knows you're talking to him. (And he's choosing to ignore you).

FELINE SMALL TALK

I told Professor Schötz about the back and forth conversations I have with Zola at times when she's not asking for food or anything specific, and I asked whether cats do the equivalent of small talk. While she's heard similar stories, she noted that it's often difficult to record the "conversations" because they take place at home, often in private moments such as when people are getting ready for bed or are getting dressed in the morning. Schötz thinks small-talk meowing "has something to do social bonding, which strengthens the relationship between the cat and the owner," but she can't say for sure. She hopes to conduct research in the future in which she studies such human-feline "chats" to learn more about the linguistic and communicative functions of "cat speak."

SEEKING PURR-FECTION

Next to the meow, the most famous cat vocalization is the purr. Owners everywhere seek purring as confirmation that their cats enjoy what they're doing. Purring is the perfect feedback loop for a cat—I'll scratch Zola under the chin until she starts purring, and then I'm so happy she's happy, that I'll keep scratching her. Research from 2009 suggests that purring is more complex than an auditory thumbs-up to a special person—cats purr when they interact with one another, too. And just as cats' meows change depending on context and

Scratch your cat under the chin, and you are likely to elicit purrs. But these vibrations can indicate hunger or pain, as well.

A cat responds to touch from a human by purring with affection.



This kitten voices approval at the meal she is about to have.

The more you talk to your cat at home, the more vocal and communicative that cat will be.

meaning, their purrs do as well. Interestingly, a purring cat asking for food may make a more “urgent” and “less pleasant” sound. Audio analysis revealed higher-frequency meows within these purrs. Scientists aren’t sure whether all food-driven cats change their purrs in this way or whether their findings apply only to cat-human interactions. This is another example of cats using their voices to get people to do what they want—according to researchers, purrs may also exploit human “sensitivity to acoustic cues” associated with caring for babies.

One of the most surprising

aspects of Schötz’s work studying the melody and inflections of feline vocalization is the “wide range of sounds cats use and how much they can vary the pitch (including the melody), the length, the voice quality—and to some extent even the vowel and consonant sounds in their vocalizations—depending on the context as well as their mental and emotional state.” Just as human voices have different pitches and styles, so, too, do meows. Just as humans vary the tones of their voices throughout the day for various reasons, cats do as well. Just as our vocal variations indicate

how we feel, so do those of cats. For all Schötz and her colleagues have learned about human-cat communication, she acknowledges there’s still much to discover.

Research suggests that the vocalizations of domestic cats differ from those of feral cats, which means human company impacts the way cats speak. Schötz tells me that owners play a big role in how much their cats talk. All the time I’ve spent gabbing away at Zola over the past two decades has, apparently, helped to shape her chatty personality. I wonder how much credit I can take for her vocabulary. 🐾

IN TRANSLATION

Deciphering the Feline Vocabulary

IF YOU OWN A TALKATIVE CAT

like I do, you know not all meows are alike. There's the "hey, what's up?" meow, the "please pet me" meow, the "FEED ME NOW!" meow, and many more. Scientific studies confirm that cats have numerous types of vocalizations, and research suggests domestic cats have a larger and more complex vocabulary than wild cats, as well as most other carnivorous mammals. The big question is: What are our cats saying?

Susanne Schötz, a phonetics professor and author of *The Secret Language of Cats: How to Understand Your Cat for a Better, Happier Relationship*, has devoted much of her professional life to answering that question. While she's learned a lot about feline vocalizations, the fundamental fact remains that "cats do not have a language that works like a human language," she says. Even when she thinks she has a handle on what a cat sound means, she can "never be 100 percent sure" about her interpretation, because of the pitfalls of trying to translate a non-human language into a human one.

Despite the challenges, researchers such as Schötz have begun compiling something like a feline dictionary. One of the most interesting findings is about purring, which is a notable vocalization because it is both

ingressive and egressive—that is, cats purr both when inhaling and exhaling. Aside from snoring, this type of articulation is fairly unusual. Charles Darwin was particularly interested in feline purring for this reason. The meaning of a purr has always seemed straightforward: feline contentedness. But research challenges this hypothesis,



This cat is trying to puff its body up to look as large as possible to scare away predators.

as scientists have observed cats purring in numerous other situations, including when hungry, in pain, or even in labor. Cat behaviorists believe purring's primary purpose is to demonstrate that a cat isn't a threat.

Schötz's analysis identifies variations between the purrs of individual cats, suggesting nuance in the sound and its meaning.

Schötz spearheaded a project called "Meowsic," which focuses on the phonetic characteristics of cat sounds, as well as how humans perceive them. Below are some of the sounds Schötz and her team, as well as other researchers in the field, have identified:

- **Meow** The most common cat sound has many variations and possible meanings. A meow can be demanding, assertive, affectionate, annoyed or discontented. Meows can even be silent.
- **Miaow** The kind of meow cats use to communicate with their owners to indicate that they want

something. The miaow may be the adult form of the mew.

- **Mew** This high-pitched meow is used by wanting kittens or distressed adults.
- **Squeak** This high-pitched, short sound often indicates a request.
- **Purr** Happy / "I like what you're doing," hungry, stressed, hurting, and/or "I'm not dangerous"
- **Trill** A high-pitched warbling sound sometimes used with a meow. Cats make this friendly sound when they're playing, or when a friendly human or feline approaches.
- **Chirp / chatter** Bird-like sounds cat make when they're imitating prey during a hunt. Cats (such as Zola) chirp, chirrup or chatter when they're spellbound looking out the window at a squirrel or bird.
- **Moan** This lower-pitched, longer sound can suggest sadness or a need.
- **Howl** A threatening sound often combined with growling or snarling, as well as teeth-baring.
- **Hissing** A short, breathy sound made with an open mouth and bared teeth that indicates a cat feels startled and/or threatened. Spitting is a more extreme and demonstrative form of hissing.
- **Mating call** During spring nights, cats in heat make a sound like someone dying. The mating cry is aggressive, demanding—and incredibly loud.