

Frankfurter Allgemeine

The Lives of Animals

Christina Hucklenbroich blogs about how we live with animals: about their daily lives, new research, and unanswered questions.



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Cat Intelligence

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Worldwide there are 600 million pet cats living with people, although the great majority of cat species lead solitary lives and are not particularly social. How humans and cats found themselves living together given this inauspicious starting point is still not very well researched. That's why Monique Udell and Kristyn Vitale Shreve of Oregon State University are pursuing a study with the ambitious goal of collecting all the research available concerning the cognitive and social capabilities of the domestic cat. These two researchers, an ethologist and zoologist respectively, hope to find answers to questions such as how cats and humans bond, how cats became domesticated, and whether co-evolution with humans has made it possible for cats to understand human gestures like dogs do.



What's she thinking?

© DPA

We know quite a bit about dogs, those other four-legged human companions. We know that they can manipulate people with their facial expressions and that they can understand hand gestures. As puppies, they enjoy the company of people as much as that of other dogs.

Udell and Shreve's article in the journal "Animal Cognition" is a review of work on the topic of cat sociality and cognition published over the course of the last several decades and includes a number of recent studies as well. However, the available research on cats doesn't really approach what we have regarding dogs. As a result, the cat remains an enigmatic creature. The two scientists first

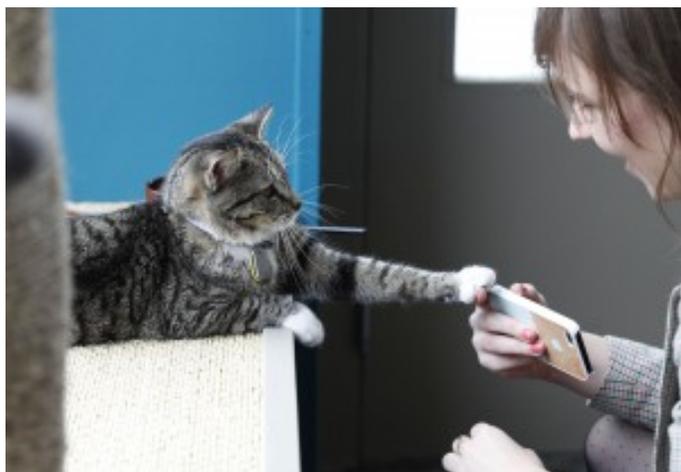
discuss the general cognitive processes of cats to understand, for instance, their working memory and their

ability to understand that objects moved behind a screen are actually still present and haven't disappeared entirely. Experiments that investigate this latter ability use "Object Permanence" tests. Grasping "Object Permanence" is also an important developmental step in human infants. Cats appear to understand that hidden objects haven't been taken away entirely, but have only been moved to another location. But, if a researcher places an object, preferably a toy that interests the cat, behind a screen in a box and then shows the cat the empty box, the cat loses interest. The cat doesn't continue to look behind the screen where the toy has miraculously disappeared. Cats can't solve this test, the so-called "Invisible Displacement Test." But if a researcher adapts the testing method so it is better suited to the species, then cats can successfully solve the test.

This is also the case with dogs; they can only solve this problem under certain conditions. So in this case it's a stalemate in the battle of intelligence between dogs and cats. But cats and dogs are different with regard to retention of the displacement task objects in memory. The working memory of a cat, the amount of time that they can keep the object in memory and solve the task is about one minute. Dogs may be able to remember the objects used in such tasks up to four minutes.

But does that mean that dogs are smarter? Hardly. We can't really draw that conclusion because the available research about cats is so meager. In their conclusion the two authors are hopeful that "we will likely learn much more about cat cognition in the years to come."

To date we know very little about what many people are most interested in: the nature of human-cat communication. Studies have shown that kittens held and cared for early in their lives by people are not only tamer and less anxious but also mature earlier. For example, such kittens open their eyes a day earlier than kittens without close contact with people.



First contact in a New York cat cafe

© AP

Cats can also recognize when people are pointing in a specific direction to indicate, for instance, where a treat is. At one time it was believed that cats, unlike dogs, were not very good at communicating with humans using eye contact. However, a study this year in the journal "Animal Cognition" refuted this assumption. The study found that 80% of cats tested exchanged glances with their owners in order to orient themselves during problem-solving tasks. But, the cats didn't always use eye contact for assistance when trying to solve problems.

Cats are simply independent. Nevertheless, cats often demonstrate attachment bonds with humans. This was demonstrated a few years ago in a Mexican study that adapted the "Ainsworth Strange Situation Test,"

originally used to study attachment behavior in young children and infants, to cats. Cats were brought into an unfamiliar room with their owner and a stranger. The cats sought out body contact with their owners and only played with them and not with the strangers. Prior to this, a 2002 study had already shown that cats demonstrate separation anxiety when abandoned by their caregivers.

What is it that creates the bond between humans and felines? Our bond with them is so strong that in Germany, for example, there are almost twelve million cats, making them the most popular house pet in the country. Maybe it's those sensitive velvet paws.

On the one hand, some studies have shown that cats rarely try to be close to their owners when the owners are feeling depressed and listless. On the other hand, there are studies showing that cats display increased so-called "allorubbing" when their owners are sad. During allorubbing cats push or rub their heads sympathetically against our bodies. There is also the way cats rub their entire bodies against our legs, winding in and out, said to have originated from this typical cat behavior.

Telepathic powers—which many cat owners ascribe to their four-legged friends—are not necessarily that. Cats are just sensitive to moods. Of particular interest is their response to negative human emotions: they can keep their distance, but they can also display clearly recognizable encouraging, sympathetic behavior. Perhaps this is one of the secrets explaining how our "little tigers" have built up such a large fan base.



© LAMLILBUB/DPA

Lil Bub, a cat with genetic disorders and a striking appearance, has become an Internet phenomenon

Cats are enormously popular. But, apparently, that's only half true. The two scientists from Oregon State University also point out that they have discovered expressions such as “selfish” and “unfeeling” in the literature they were evaluating. Thus, even some cat researchers apparently have the impression that cats don't let anyone affect them and are self-absorbed. They even found the word “manipulating” in scientific studies. Cats, are they sly little intruders only concerned with their own interests? The authors argue that it is possible that such prejudices could be responsible for the fact that so few studies are available and our understanding of the cognitive abilities of cats is still so fragmentary.

researchers discovered just last year, cats can include a high frequency sound in their purrs—a frequency similar to that emitted by crying human babies. Cats make the sound primarily when they want to be fed.

But, cats are, if you will, manipulative in at least one way—purring. As some British and American cat

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