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### **Talking with Animals**

A sniper who shot cats in a Californian suburb was handcuffed after Wilma had testified his scarred face, teenage clothes, and the bag with the gun in it. Such descriptions very often help the police with the investigation. But very seldom they are given by brute witnesses such as Wilma - who is a cat.

What Wilma witnessed while roaming through the lanes and front gardens of the suburb she told to Carol Gurney, an animal communicator from Agoura Hills in the United States. Gurney claims to do what every pet owner is dreaming of: to talk with animals. She just can ask a horse whether it hurts, a budgie what makes him happy, or a tomcat why he is peeing on the carpet.

This is not so much a difficulty, states Penelope Smith. The animal communicator from Prescott, Arizona, perceives everything alike the animals: images, noises, emotions, and others. Such telepathic perceptions were pretty normal, she says, but were heavily combated by a rational mind that accepts only what can be concluded in small steps. Talking with animals in contrast were an intuitive business; it were just one step.

A rational explanation for telepathy seemed to be within reach at the end of the nineteenth century when the electromagnetic field had been discovered. Physicists like Joseph J. Thomson were optimistic to formulate a mechanism that acts equally invisible between living beings, as electromagnetic waves act between a sender and a receiver.

One of these researchers was the psychiatrist Hans Berger. As a young soldier he fell from his horse during a military manoeuvre and nearly died under the wheels of a cannon. The very next day he got a telegram from his father. It said that Berger's sister had been deeply worried about the life of the recruit. So his agony must have been transferred somehow on his sister, Berger concluded and began examining brains. And indeed he detected an electric field in the cortex whose currents he recorded, thereby giving birth to the first electroencephalogram.

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However, the field strength of the cerebral currents is much too low to transfer thoughts or perceptions over a range of several hundred kilometres. In addition the field strength diminishes rapidly with the distance between sender and receiver. The closer the telepathic receiver is to the sender the better he should receive the messages. But telepathy does not care for distances. The success rate of telepathy is the same, be the transmission transatlantic or between two neighbours.

This has been demonstrated several times with play cards: A test person must declare which of five cards another person far away had picked. After twenty-five rounds the test person is five times right if she chooses the cards randomly, what is expected. But a few scored better than that. They had a six-times-hit. Well, six hits out of twenty-five tries might be pure luck; but there is definitely no luck when the test persons do so after many thousand rounds over many years. Then the variation of one more hit is highly significant.

Telepathy, these card experiments suggest, is neither random nor is it practised intentionally. It is not intentional because the test persons could not specify which of their guesses were the correct ones. They did not perceive anything that could determine their choice. And when they felt sure they were as often wrong as they were right. Either then the test persons received the message unconsciously or there was nothing transmitted at all and the persons just acted in accordance with their nature, like Michael Scriven, philosopher at the Claremont Graduate University, supposes.

A hint, what this nature could be like, comes now from an unexpected side: from quantum theory. Here, a spooky action at a distance goes by the name of entanglement. Two particles are entangled when characteristics like their spin belong to the joint characteristic of a system of particles. Whereupon the joint characteristic is independent; it is not just the sum of the single characteristics. Instead the system determines the characteristics of each particle - without any physical causation: The particles are in a joint state, they are entangled. Could then animal communicators be entangled with pets?

As for quantum theory two electrons with spin  $+1/2$  and  $-1/2$  might be in a joint state with spin 0. The orientation of a singlet spin is not determined in any way: all orientations are equitable. But if the orientation of the spin of one electron is measured then one knows immediately what the same measurement of the other electron will result in; even when

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the electrons are miles apart and measured simultaneously, so that the results could not have been transferred from one detector to the other before the respective measurements - at least not with a velocity lower than a thousand times the speed of light. It appears as if one electron knew about the measurement of the other without the other having had a chance to convey the results.

The entanglement has the same consequences as the transfer of information even though no information has been transferred. But neither can the electrons be informed in advance. Then each electron had to have a hidden blueprint of how to behave at a certain detector; as a consequence the same measurements of the two spins would come up with the same results. However more often so than quantum theory predicts. This is the core of Bell's theorem which rules out the theory of hidden parameters.

In accordance with this theorem a moving electron is deflected in a magnetic field dependent on the orientation of its spin. The question then an experimenter, who adjusts the magnetodetector to different directions, asks the electron is: Are you being deflected? The electron might respond yes or no. Supposing three different directions for the magnetic field of the detector (with an angular distance of  $120^\circ$ ) eight different codes are possible for a hidden parametrization of the particles: The electron shall be deflected in all three directions, only in the first direction, only in the second, only in the third, in the first and the second, in the first and the third, in the second and the third, or in none. For two detectors in turn nine combinations of angular adjustments are conceivable: Both detectors are adjusted to the first direction, the one to the first and the other to the second or third, or the one to the second and the other to the first or third, and so on.

The electrons hitting the detectors are as often deflected as they are not deflected. The experimenter gets the same answer in half of the measurements. And most important he always gets the same answer when the detectors are adjusted to the very same direction. If now the electrons were acting according to codified instructions then they must respond with the same answer in at least five of the nine detector constellations as it becomes easily obvious in a tree diagram - which contradicts quantum theory and experimental results.

Therefore a predefined code is impossible that complies with the demands of quantum theory: producing random results on the one side and simultaneously providing such a strong

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correlation of equal results in equally directed detectors on the other. Seemingly one simply has to accept quantum entanglement; a further explanation of it is not in sight.

Correspondingly one has to accept telepathy, says Dean Radin, namely telepathy as psychic entanglement. The psychologist from the Institute of noetic Sciences at Petaluma, California, holds extra sensory perception to be the human experience of quantum interconnectedness: "The parallels are so compelling that I believe they'd be foolish to ignore."

Analogously to the electrons two people might be conceived sitting in separated rooms. They are shown pictures of arrows in three different directions and must tell the experimenter whether they see the same picture or not. Both of them would answer as often with yes as with no. Viewing different pictures the answers were at random. And by pure chance half of the answers were identical.

But this already is in sharp contrast to quantum theory where only a quarter of the answers is expected to be identical. For in sum equal answers must be as frequent as unequal answers; and viewing the same pictures the test persons must arrive at a one hundred percent coincidence of their answers. However, such a quota is utopian even for the most gifted champions of the card experiments. Here small quanta make a large difference.

Nevertheless entanglement allures many parapsychologists. Harald Walach from the University Hospital at Freiburg, Germany, works on a "weak quantum theory" that allows to extend the concept of entanglement to any system; provided the system has complementary characteristics, that is characteristics which cannot be measured at the same time with deliberate exactness. Like for example place and momentum of a particle, or different orientations of a spin. But also individuality and community, freedom and responsibility, or diagnosis and therapy shall be weakly entangled.

In fact Walach is more concerned with the transference of psychic states from the patient to the therapist than with telepathic communication. Not so without reason. The intentional transfer of information by way of entanglement can be excluded definitely because one cannot predict the result of a measurement with certainty. Each orientation of a spin is equitable before the measurement. But if one wanted to send a message from one particle to the distant entangled particle, one had to orient the spin in a certain intended direction.

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Communication then can only be random and hardly meaningful. A spin is no switch that can be pushed to adjust another spin.

Anyhow quantum entanglement might synchronize biochemical reactions in a neuron for example, or it might orchestrate the signalling of distant neurons, even whole entangled brains might be clocking in a common mode. This then had the effect of communication without being communication. "The entanglement were a supplement to the way we already communicate", explains Johann Summhammer, physicist at the Technical University of Vienna.

For telepathy such an entanglement raises inextricable problems. In a telepathic perception the perceived is just there, it is anonymous. Neither could there be a hint for the channel where the perceived came through nor could the sender be identified, like the French philosopher Jacques Derrida pointed out. In telepathy no one is seen or heard speaking. One could be entangled with whomsoever, which makes it impossible to check the correctness of the perception.

Therefore Carol Gurney advises more telepathic confidence: "It is important that we trust in the first reactions we receive from an animal without any interpretation." In other words, the sent impressions shall be from the being we expect to be the sender. This, of course, is highly susceptible to deceptions, like Gurney herself has witnessed. She had contacted a run away cat telepathically and brought her back to the owner. But the vet then found out that the homecomer was not really the run away cat because this one had been castrated.

And this is not enough. The trouble with rationality for confident animal communicators runs deeper. For in order to understand an animal it is required that the animal speaks a language and that it is able to express its language in a way graspable for humans. But either is heavily disputed.

"Not only humans have a language", says Tobias Rosefeldt. The philosopher from the University of Constance, Germany, considers a language being purely composed out of signals to be practicable. Such signals could be sense impressions. The philosophical problem then is that these signals must be translated into a spoken language. But for such a translation there is no dictionary at hand. So people can code their existing language in signals like the morse alphabet, but is there a way to transform the signals of animals in a language?

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No, replies Stephen Anderson, psychologist at the Carnegie Mellon University at Pittsburgh, Pennsylvania. In the signals of animals an essential item of languages is missing: the syntax. Animals have different signals for different dangers, but within these signals there are no sequences that comply with linguistic rules. The lack of adverbial specifications for example prevents animals from communicating where the danger comes from, whether it will come tomorrow, or in a two hours time.

Although ethologists succeeded in teaching a sign language to chimps, this success consists in hardly more than bare repetition. What results from such experiments are protocols of the interaction between men and chimps, where the chimps adjust themselves more and more to the behaviour of the scientists. That is why Jakob von Uexküll mocked American ethologists. Instead of training animals to human concepts the German biologist demanded the study of animalistic concepts. Because a tree is something very different for wood worm, for a bird, or for a fox.

It is the specific environment of an animal to which its signals are adapted. Their meaning is derived from the specific environmental qualities and uses the animal makes of them. Olfactory particles in a corner tell a dog its recent history whereas we cannot get any meaning out of it - if we smell anything at all. And vice versa, we sit in chairs and lie in beds whereas a dog makes the same use of both.

The essence of the argument is: if a lion could speak a language, he were a humane lion. So then is someone who talks with a lion a leonine man? Do we get the meaning of chirping birds only after having rolled ourselves in dragon blood? Isn't there any communication at all between men and animals? Don't we understand our cat when she wants to feed or our dog when he wants out? Aren't we justified in our understanding when the cat pounces on the filled bowl or the dog sallies out through the opened door?

There seems to be a minimal base of mutual understanding. The French zoologist Louis Boutan therefore suggested differing the rational language of man from an emotional language that he shares with animals. This common emotional language shall go back to the biogenetic ground rule. According to this rule man passes during his development from the fertilized ovum over the embryo to the adult Homo sapiens all stages of evolution. As all living beings have undergone together some stage of evolution before splitting up in different species, there shall be a common evolutionary language base that allows

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communicating naturally amongst all species; whereas the rational language emerged later and is a pretty hard stuff to learn.

What then are these evolutionary basic emotions all beings share naturally? Do our sense impressions belong to them, and are our sense impressions identical with the ones of animals? "We cannot test this by experiment", regrets Julia Fischer from the German Primate Center at Göttingen. What animals perceive can only be concluded indirectly from their behaviour and physiological equipment. But these conclusions are not very promising.

Flies go for steaming cowpats and dogs sniff interestedly at places where we wrinkle our nose. Butterflies are supposed to see more colours than men because they have one more type of cones in their retina; and dogs are supposed to see less because they have to get by with fewer types of cones. But how a butterfly sees ultraviolet or how a bat hears ultrasound stays an unresolved riddle, even for animal communicators: As long as they are humane, their perceptions are humane, too. At least they cannot prove otherwise.

Nevertheless animal communicators do not doubt the received messages. To his sceptics Stephan Geißler from Horb in the Black Forrest, he describes their apartments, which he has never seen before, out of the perspective of the pets. This way he sometimes even reveals more than the sceptics could have wanted to know. But most of them are already convinced when after the telepathic exchange their dog stops barking at children, the tomcat peeing on the carpet, or the horse laming.

This alone cannot be convincing for scientists. But, of course, there will be no evidence as long as the animal communicators keep being untested systematically. Actually the disinterest in such examinations is fairly astonishing compared to the strong interests in pets. In Germany alone twenty-two million pets are waiting for conclusive answer of scientists.



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