Learning from Animals

Animals are rarely violent and never to the extent we are. We can learn a lot from them – if we only open our minds and hearts to who they really are, writes **Marc Bekoff**

After I rescued Jethro from the Boulder Humane Society (or should I say he rescued me?) and brought him to my mountain home, I knew he was a very special dog. He never chased the rabbits, squirrels, chipmunks or deer who regularly visited, but actually seemed to like them.

One day Jethro came to my front door, stared into my eyes, and dropped a small furry saliva-covered ball at my feet. The wet ball was a very young rabbit. Jethro stared unwaveringly into my eyes, commanding me to do something, so I picked up the tiny rabbit, placed her in a box, gave her water and celery, and figured that despite Jethro and me working together to keep her alive, she was unlikely to survive the night. I also wondered whether Jethro would, at some point, decide she'd be a tasty meal.

I was wrong on both counts. Jethro remained by her side, and refused walks and meals, until I pulled him away so he could heed Nature's call. Finally, when I released the rabbit, Jethro followed her trail and continued to do so for months. Over the years to come Jethro approached many rabbits as if they should be his friends. He also rescued a few birds who had flown into windows and even, on one occasion, a bird who'd been caught by a local red fox.

While watching elephants in the Samburu National Reserve in Northern Kenya (with renowned elephant researcher Iain Douglas-Hamilton), I noticed a teenaged female, called Babyl, who walked very slowly as if each step was difficult to make. I learned she'd been crippled for years and that the other members of her herd never left her behind. They'd walk a while, stop, and look to see where she was. If Babyl lagged behind, the others would wait. And of course, if she'd been left alone she would undoubtedly have fallen prey to a lion or other predator. Sometimes the matriarch would even feed Babyl.

> Animals have a sense of justice and display empathy, forgiveness, trust and reciprocity

Babyl's friends had nothing to gain by helping her – she could do nothing for them. Nonetheless, out of friendship, compassion and empathy, they adjusted their behaviour to with the group. Friends don't leave friends behind.

I was once lucky enough to happen upon what could be called a magpie funeral service. After a magpie had been hit by a car, four of his flock mates stood around him silently and pecked gently at his body. One, then another, flew off and brought back pine needles and twigs and laid them by his corpse. They then stood vigil, nodding their heads, before flying off.

I've also seen a female red fox carefully bury her mate after a cougar had killed him. She gently laid dirt and twigs over his body, stopped, looked to make sure he was covered, patted down the dirt and twigs with her forepaws, cocked her head from side to side studying her work to see that he was indeed totally covered, stood silently for a moment, and then trotted off, tail down and ears laid back against her head.

Bonobo using a branch to test water depth as he wades through a lake, Democratic Republic of Congo © Fiona Rogers/naturepl.com

Animals are amazing beings. And these tales, all my own very personal stories, demonstrate just how compassionate and empathic they can be, expressing positive sentiments that cross species lines. Of course, animals do compete with one another too, and on occasion can be downright nasty, but the social lives of animals are strongly shaped by affiliative and cooperative behaviour. More than 90% of the behaviour of most species is cooperative or pro-social.

Animals are only rarely violent and never to the extent that we are. They have a sense of justice and also display empathy, forgiveness, trust and reciprocity. We can learn a lot from them if we open our minds and hearts to who they really are. We should be proud of our citizenship in the animal kingdom. We're clearly neither the only conscious beings nor the sole occupants of the emotional and moral arenas. Surely we have no right to judge other animals or blame them for our own evil ways.

The field of research in which I've worked for decades is called cognitive ethology: the study of animal minds. I'm interested in what is happening in their heads and hearts. Every day we learn more and more about the fascinating minds of animals, how aware they are of what is happening around them, and how smart, emotional and compassionate they can be.

When we say animals are conscious and smart we mean that they know what to do to adapt to ever-changing environments. The versatility and flexibility

Common raven, La Palma, Canary Islands, Spain © Wild Wonders of Europe/Relanzón/naturepl.com

of their behaviour demonstrate clearly that they are not machine-like automatons, but rather actively thinking and feeling beings. Donald Griffin, often called the "father of cognitive ethology", postulated that the ability of animals to adapt to unpredictably changing conditions indicated they were conscious and able to assess what needed to be done in a given situation. It's not a question of whether animals are conscious, but rather why consciousness has evolved and what it is good for.

There are sound biological reasons for recognising animals as conscious beings. Charles Darwin stressed that variations among species are differences in degree rather than kind. There are shades of grey, not black and white differences, so if we have something, "they" (other animals) have it too. This is called evolutionary continuity. It is bad biology to rob animals of the traits they so clearly possess.

For example, we share with other mammals and vertebrates the same areas of the brain that are important for consciousness and processing emotions. We need to abandon the anthropocentric view that only big-brained animals such as ourselves – non-human great apes, elephants and cetaceans (dolphins and whales) – have sufficient mental capacity for complex forms of consciousness including self-awareness. Indeed, many researchers believe consciousness evolved somewhere between the evolution of amphibians and reptiles. Human consciousness and emotions are the gifts of our animal ancestors. Emotions serve as social glue and also catalyse and regulate a wide variety of social interactions among friends and foes. They also permit animals to behave adaptively and flexibly.

Scientific research is changing the way we view other animals. We don't have to go beyond the science or embellish what we know to appreciate how they express their intellectual skills and emotional capacities.

Here then is an enticing, inspirational and somewhat surprising sampler of what we already know:

- Jellyfish are remarkable animals. They're much more than mindless protoplasm. They possess a complex visual system that allows them to navigate the swamps in which they live, and they have what can be called a central nervous system and a brain. They're not merely passive floaters. The behaviour patterns they exhibit are not simple reflexes, but well-organised adaptive actions.
- Bees also are fascinating beings. They are better than computers at solving the travelling salesman problem. They learn to fly the shortest distance between flowers using their limited hardware: tiny brains about the size of a grass seed.
- Spiders hunt with intention and display great flexibility in their behaviour.
- Fish also get into the mix. After years of being dismissed as mere robotic automatons, they are, it turns out, conscious sentient beings. In her book *Do Fish Feel Pain?* (reviewed on page 60), Victoria Braithwaite writes: "I have argued that there is as much evidence that fish feel pain and suffer as there is for birds and mammals – and actually more than there is for human neonates and preterm babies."
- Birds, too. They plan future meals, feign injury to lure predators to follow them rather than their more vulnerable youngsters, make and use complex tools and use old tools for new tasks. They share information about humans regarded as a threat, recognise human faces and know to avoid those humans who chase them. Ravens are aware of when a secret food cache has been detected and will protect it from other ravens who might have seen them hiding food but not against those birds who didn't. In other words, they understand that other birds observing them hiding the food might try to steal it.
- New Caledonian crows are among the Einsteins of birds who use tools, and they even outperform chimpanzees in this arena. These brainy crows tailor their tools to unique situations and have been observed, for example, dropping rocks into water to raise the level simply to get to a worm who is floating just beyond their reach. We also know bird songs have rules of syntax. So if you think about it, being called 'birdbrain' is actually a compliment.

The cognitive skills, creativity, innovation and versatility in the behaviour of mammals, including but going far beyond great apes, cetaceans and elephants, are well documented and legendary. Wolves, African wild dogs and others engage in cooperative hunts during which individuals are aware not only of what they themselves are doing, but also of what others in their group and their potential 'meals' are doing, and will rapidly change their behaviour on the run.

Diverse mammals solve complex problems, make and use sophisticated tools, plan for the future, negotiate all sorts of social relationships, seem to know what others are thinking and feeling, and also know right from wrong.

Dolphins fit marine basket sponges over their beaks so they can hunt without injuring themselves from rocks and coral, and gorillas use sticks to measure water depth. Rats are capable of forward planning, as are octopuses.

The rich emotional lives of numerous and diverse animals have also been well documented. Many animals display wide-ranging emotions, including joy, happiness, empathy, compassion, grief, sorrow, and even resentment and embarrassment. Animals love to play, and seek at every opportunity to enjoy themselves.

> Every day we learn how smart, emotional and compassionate animals can be

We know too that empathy crosses species borders. A hippopotamus has been observed saving a drowning zebra, and a lioness has been recorded adopting and caring for young gazelles. A young hippopotamus, Owen, who survived the devastating tsunami in 2004 off the west coast of Sumatra, adopted a 130-year-old tortoise, Mzee, as his best friend in a rescue centre in Kenya.

Mice and chickens, two improbable candidates for displaying empathy, show concern for others and 'feel' other animals' pain. Monkeys and rats will refuse food when they realise that by taking it they cause another animal to suffer.

Rats like to be tickled and like to laugh and chimpanzees dance wildly at waterfalls. Could it be they are happy to be alive or in awe of Nature? Indeed Jane Goodall wonders whether these dances are indicative of religious behaviour, perhaps precursors of religious ritual. She asks: "Is it not possible that these performances are stimulated by feelings akin to wonder and awe?"

There is also a dark side to sentience. Elephants, great apes and other animals suffer from mood and anxiety disorders. Animals go mad just as humans go mad. They display the same symptoms we associate with post-traumatic stress disorder (PTSD) and other mood and anxiety disorders in humans, including self-mutilation, repetitive rocking, pacing back and forth, a loss of appetite, and a loss of interest in living. We also know that stressed honeybees become anxious and pessimistic and show altered levels of neurochemicals (dopamine, serotonin and octopamine) that are the same chemicals associated with anxiety and depression in humans. Stressed bees will, for example, show a loss of interest in what are normally pleasurable activities such as drinking a sugar solution.

Domesticated animals are also highly aware and deeply emotional and passionate. We all know about the dogs, cats, hamsters, birds and fish with whom we share our homes. But 'food' animals are also very smart and passionate. Chickens can remember around 100 individuals. Pigs are incredibly smart and emotional, as are cows. Cows worry over what they don't understand, and experience '*eureka*' moments when they solve a puzzle such as how to open a particularly difficult gate. They communicate by staring and it's likely we don't really yet understand their very subtle ways of communicating. Cows, pigs and chickens also form close and enduring relationships with family members and friends and don't like to have their social networks with their bovine, suid or bird buddies disrupted.

They don't like to be subjected to the reprehensible conditions to which they are exposed during their transport to the factory farm or CAFO (concentrated animal feeding operation), or their short stay at these filthy and inhumane facilities. They also suffer the pains of other individuals who are their short-term room-mates on the way to someone's plate. Because cows and other food animals are sentient, one should really ask, "Who's for dinner?" not, "What's for dinner?"

Who we eat is a serious moral question.

The world of animals is laden with magic and wonder. What we know should be transformative and inspire people to care for, respect and be proud of our membership in the animal kingdom. Research on animal minds has never been more vibrant and is expanding the circle of conscious, intelligent, emotional and moral beings to include many unexpected residents.

When we ignore who other animals really are we ignore Nature itself. We must use what we know about animal minds to develop a new and inclusive ethic that blends respect, caring, compassion, humility, generosity, kindness, grace and love to motivate a collective and wide-ranging action on behalf of other animals. They depend on our goodwill for their wellbeing.

We need a new paradigm – 'First do no harm' – that will allow us easily to expand our compassion footprint by paying careful attention to what animals want and need from us, which is, in simple terms, to be treated better or left alone.

And it's long overdue. R

Marc Bekoff is former Professor of Ecology and Evolutionary Biology at the University of Colorado, Boulder. He is the author of numerous books, including *Animals Matter* and *The Emotional Lives of Animals*. www.marcbekoff.com