

What's love got to do with it? Everything.

Interspecies Love

► **By G.A. Bradshaw**

Almost all aspects of life seem to involve our experiences in relationships, which are as varied as the people in them: sometimes joyful and funny, other times sad and melancholy. Nobel Prize winner François Mauriac put it most succinctly: “We are molded and re-molded by those who have loved us; and though the love may pass, we are nevertheless their work, for good or for ill.”

Today, science recognizes Mauriac’s lyrical “molding” as one of the most important influences in our lives. Relationships go beyond skin-deep: Along with genes, they shape how we see the world. Early attachments made in youth teach us who and how to be. But bonding is not limited to people. Who we love extends beyond species lines.

Take Owen, the young hippopotamus orphaned by the giant tsunami in Kenya, who was taken in by Mzee, the ancient tortoise. Or the crow, nursed back to life by ethologist Konrad Lorenz, who then fell in love with a Swiss woman from a nearby village, ignoring all other bird companions. Then there was the kitten adopted by Koko the gorilla. More recently, a couple filmed a neighborhood crow caring for a young stray cat. Diligently and lovingly, the bird brought food, even worms, to nourish the fragile feline. Over time, the two began to play together, enjoying each other’s companionship.

Across the ocean, Jessica the hippopotamus, a species considered to be one of the most dangerous animals, was rescued by Shirley and Tonie Joubert, a couple who found her alone on the banks of the Blyde River in South Africa. Most likely, Jessica became separated from her

mother during the devastating floods and washed downstream.

Through meticulous nursing by her human rescuers, Jessica recovered from her trauma to become part of the family. A visit to the Jouberts’ home often finds Jessica, after a hippo-style swim, ambling her bulky frame into the kitchen, where she is hand-fed fruit and later tucked into bed on the porch next to Za Za the Rottweiler.

Interspecies love goes both ways. Feral children, orphaned or abandoned, have been taken in by families other than their species of origin. Rudyard Kipling’s *Jungle Book* tells the tale of the boy Mowgli who was nursed and mentored by wolves, snakes and leopards. François Truffaut’s film *L’enfant Sauvage* describes the “wild child” found roaming the woods of southern France. Some children become attached to the wolves or dogs with whom they have lived to the point of choosing their adoptive species over humans when they are forced to return to “civilization.”

Putting back the pieces

Each of these stories illustrates someone in a strong loving relationship with another creature belonging to a different species. They break ancient stereotypes and assumptions that affect the way animals are perceived, judged and treated. Stories like the crow and the ailing cat, and Jessica and the Jouberts run counter to conventional beliefs. Cats are supposed to eat birds, not nurse them; hippos kill people, not cuddle with them; and animals as taxonomically distant from humans as cold-blooded tortoises are not supposed to have a social life, let alone feelings. Jessica





and other trans-species companions demonstrate that love and empathy can overcome situations considered irreversibly adversarial.

Yet even when they make nightly news, interspecies love stories are usually shrugged off as anthropomorphic anecdotes. Both popular beliefs and science have scoffed at the idea of animal emotions, and the value of relationships in general has taken a long time to find a legitimate place in scientific theory.

Now, however, scientists are slowly changing their minds about animals. Since the 1990s, three key discoveries have emerged that have radically influenced how human and animal behavior is understood.

I feel, therefore I am

First, emotions are no longer considered superfluous or subordinated to the all-powerful mind. New models of mind and brain have given birth to the field of affective neuroscience, the study of emotions and feelings. Emotions and cognition are understood as partners playing equally important roles.

As researcher Richard Davidson notes, “Complex decisions such as who to marry and which job to take cannot be made solely on the basis of a cold calculus that involves the weighting of pros and cons in a formulaic prescription. Rather, such decisions are typically made by consulting our ‘feelings.’” This suggests that French philosopher René Descartes’ famous *Cogito ergo sum* needs some renovation to match current scientific knowledge, changing the original “I think, therefore I am” to “I feel (and think), therefore I am.”

Bringing heart and mind back together has yielded a second major discovery and, in so doing, has managed to help resolve a long-waged debate. For decades, scientists argued whether nature or nurture determined who we were. One school of thought held that inherited innate qualities predicted psychological makeup. In contrast, a second school insisted that each of us is born a blank slate, a *tabula rasa*, that becomes etched through experiences as we mature and interact with the surrounding world.

Scientific evidence seemed to support both positions. On one hand, genetics certainly appears to be at work when we consider relatives. Familiar patterns of behavior and mannerisms seem to ripple down successive generations, even when upbringings diverge. A cousin who has never met his uncle is surprised to find that they share the same habit of tugging their left ear when perplexed and that both love onion sandwiches. But science has also shown that differences, significant ones, occur as often as likenesses, no matter how related two people are. Siblings raised in the same family can seem totally unrelated.

To help get to the bottom of this riddle, a series of studies were conducted to examine the habits and personalities of twins separated at birth and raised apart. Some results show that twins exhibit uncanny parallels. However, in other instances, pairs do not appear to be any more related than random strangers. Personality and temperament fail to consistently correspond to the family tree or social context – the people and place we are raised with. So what gives?

Like many other questions, answers are neither black nor white, but are a little of both. More than 40 years ago, child psychologist John Bowlby speculated about what neuroscientists have confirmed today: What happens on the outside (our relationships and the environment) is mirrored on the inside (neurobiological patterns and processes); their synergistic interactions with an inherited genetic road map determine our behavior. What this means is that our brains don’t evolve in a void. They, and we, are intrinsically relational – we are shaped by whom we interact with, how we interact and what we learn. Subsequently, predicting how a person behaves is not that simple. However, what is clear is that relationships play a critical role.

This brings us to the third discovery that has transformed interspecies love from anecdotal fiction to hard fact: What we know about human brains holds for other species. The structures and processes of the brain that make us tick – all the emotions and thoughts that make up life, such as feeling joy at the sight of loved ones and pain at their loss, deciding what to eat, enjoying the warmth of the sun – are shared in the animal kingdom. Values and how we go about things may differ, but the basic machinery is common to us all. The brain is trans-species.

I’ve got you under my skin

Scientific explanations don’t alter the fact that the Jouberts love Jessica and she loves them, or how each of us feels about our companion animals and they about us. Science merely brings attention to the exquisite sensitivity and vulnerability of animals to relationships. Like the Cole Porter song, research shows that we have a bit of whomever we love “under our skin.”

The impact of experience on brain development and behavior is considered greatest during childhood, when there is rapid neurological growth, but also when there is extreme stress or trauma. A single traumatic event can leave its mark for years to come. Both sensitivity to early social context and trauma are dramatically illustrated by cross-fostered individuals such as Jessica the hippo, hand-reared parrots or

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other animals raised by someone other than their species of origin.

Brooks is a 12-year-old male chimpanzee living in sanctuary at the Center for Great Apes in Wauchula, Florida. Many chimpanzees who are used as subjects in biomedical research and testing or, as in Brooks' case, born into the entertainment industry, are raised by humans and have little to no interaction with other chimpanzees. Brooks worked in the movies, in television and in commercials, and on stage in Florida and California tourist attractions until he was given over to a sanctuary at age six or seven. There he began to live with chimpanzees for the first time.

At the sanctuary, introducing new "roommates" and neighbors to each other is a carefully orchestrated and monitored process. Sanctuary staff must consider each animal's personality and past. Every detail of complex chimpanzee social life needs to be pondered and weighed before two individuals meet. Cross-fostered individuals typically have the hardest time, and the reasons trace back to what we have learned about the developing brain and mind.

Not only does someone like Brooks suffer from the loss of his early family and social group, but he has become accustomed to human ways and culture. For someone like Brooks, chimpanzee ways are foreign, and the nuances of custom must be learned. In effect, individuals like Brooks are half human and half chimpanzee. Eventually, through a studied process of observation and Brooks' own growing sense of comfort, sanctuary director Patti Ragan and staff have been able to facilitate some friendships between Brooks and a few other chimpanzee residents. However, he still seeks out what is most familiar and comforting: humans.

We can draw similar conclusions for other species living with human families. Again, we don't need science to tell us what we observe. Dogs, cats, parrots and other altricial species (those who depend on the care of an adult for a significant period of time after they are born) make deep, lasting bonds with humans, much as they might with their fellow species members. Any loss or disruption to these emotional bonds can cause severe stress.

Sadly, this is the case for most rescue and shelter animals. Not only have many suffered extreme abuse, but they have also had to bear the loss of loved ones. There are many stories describing how a companion will grieve for his past family and in some cases will wither and die. Cockatoos are one example. Not infrequently, those who have been abandoned will pick at their breasts out of despair until they die from the wounds.

All in the family

Science provides evidence that supports what we already know in our hearts: Jessica and the crow who tended to the cat survived because of the love they received along with nourishment. Humans are not the only ones with the capacity and need for love. Animals have emotions and passions, too, and are motivated by something other than instinct or the food bowl in front of them. No matter who we are, those who love us leave an imprint on heart and mind. Whether they wear fur, feathers, scales or just plain skin – they are a part of us, and we of them.

When all the Jessicas and Mzees in the world are added up, their numbers are not few, and examples of interspecies love not so rare. In fact, they seem more the rule, and we humans the exception in the animal world. But that may be changing.

African elephants made news when young bulls killed more than 100 rhinoceroses. The cause? The young elephants were victims of traumatic violence, having witnessed their families being gunned down. Ordinarily, elephants and rhinoceroses co-exist in relative peace. Now, however, wildlife has begun to reflect the turbulent human cultures in which they are immersed. And the problem is not limited to wildlife. Statistics on animals relinquished to shelters and the millions of parrots and others born in breeding programs speak to the profound hardships that many animals face in the absence of human families who will care for them with the same commitment that they themselves give. They are asked to live, and survive, in a world without love.

A contract of the heart

Interspecies bonding shows just how powerful love is, and it opens our eyes to new possibilities. Often, people are admonished to "stop acting like an animal." But experiences of interspecies love suggest that it may well be time to start acting like animals and for human culture to adopt some important animal ways of compassion and care. As human caregivers, we have the responsibility to live up to animal loyalty and trust, and to honor this contract of the heart.

Perhaps, before embarking on any relationship or making any judgments, we might take the fox's advice in Antoine de Saint-Exupery's book *The Little Prince*: "Here is my secret. It's quite simple. One sees clearly only with the heart. Anything essential is invisible to the eyes."

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