# Altruism And Animals

Is altruism prevalent in animals? In order to answer this question, one must understand the definition of altruism. According to Bradley (1999), altruism is understood to be a behavior in which the actions of one increase the survival or increases the reproduction of one or more individuals, while often causing a decrease in the survival or reproduction of the individual who aided the first animal. Others, such as Kenney, Higginson, Radford and Sumner (2018), define altruism as a costly self-sacrifice performed in service to another individual. While still others, Breed and Moore ( ) describe altruism as giving aid to those in need with no opportunity to be paid back. One may see it as paying it forward, or the act or behavior stemming purely from the desire to help with no obligation; it appears in the animal kingdom. While many may admit that animals behave in manners that could be interpreted as altruism such as food sharing, grooming, alarm calls and group defense, the argument lies in motive. Are animals performing kind deeds because they can think deeply and express compassion or are these burst of kindness selfish in nature?

Altruism may seem contrary to evolution. Survival of the fittest and natural selection are two terms that are used to explain why animals behave the way that they do. Animals need only be born, survive to mate and pass on their genes and then die. Yet one can observe sterile working cases of social insects such as bees, orphaned chimpanzee being taken in and Florida scrub jays pitching in to raise a chick that is not their own. These behaviors can be broken down into four explanations: classic individual-level selection, reciprocity and game theory, kin selection, and trait-group selection.

Classic individual-level selection is the idea that individual animals seek to put their genes and needs above a group. Therefore, if altruism is exercised there would be a decrease in the direct fitness of the individuals. This is where cooperation steps in to challenge the notion. Cooperation explains cooperation between animals. It can be expressed in a variety of ways. One such way is the warning call of a prairie dog. It does not merely benefit the individual but the whole group. There is no greater benefit received, it is done to protect all.

That being noted, kin selection, otherwise known as inclusive fitness, seeks to further explain the extent in which altruism is helpful to a given species. Kin selection occurs when an animal's behavior benefits a close relative. Such as in the case of the Florida scrub jays. Aunts and uncles take care of their nieces and nephews. This ensures that they species will continue and thrive. They do this despite giving up the opportunity to pass along their specific genetic markers. However, it has been proven that genes can spread not only through direct transmission, but through indirect transmission. The genes are being passed by means of a direct descendent.

Reciprocity, or mutualism explains altruism by means of "You scratch my back, I'll scratch yours." This explanation of altruism states that an animal will behave altruistically if they think they can be repaid eventually. Several breeds of primates have been known to help groom one another and are later seen being groomed later by another primate.

Can animals be taught altruism? Can one put an animal into a situation in which they are given

the opportunity to help another without expectation of a reward? There have been several studies conducted in order to test whether an animal can be taught altruism. In such experiments a subject is given a treat. Then the subject is given the option to give a treat without receiving one in return. Other experiments have analyzed whether an animal can think outside itself and towards the needs of another. These experiments consist of a subject given two options: deliver food to a nearby recipient where both the donor and the recipient receive a reward and the second option where the subject just treats themselves. While other experiments involve a treat for the recipient with no treat or harm to the donor.

In 2017, Lambert and associates experimented with ravens. They taught several ravens how to operate an apparatus that would give treats. After they were satisfied that the ravens knew how to operate the apparatus, they began their research. They had a raven in the position of a donor and another as receiver. At first both the donor and receiver were rewarded with a treat when a lever was pulled. Slowly, the treats were being given only to the receiver. When this became clear to the donor, it no longer pulled the lever to give a reward to the receiver. Several studies were done changing the receiver. Sometimes it was kin. Other times it was close kin. However, each time the raven ultimately only pulled the lever it is expected a reward as well. This study revealed that in the case of ravens, altruism was selfish.

Whereas ravens may have proven to demonstrate behavior contrary to altruism rats are a different story. They display the ability to cooperate and pay it forward. In a study conducted by Rutte and associates in 2007, Rutte was able to explain how cooperation among non-relatives could be learned. Female rats were trained to push an apparatus to receive a treat. They were then put on the receiving side and given a treat. After this, they were moved into another area where they could see another rat being placed as a receiver. When given the opportunity, the rats pushed so that the other rat adjacent could receive a treat, despite not receiving one of their own. This experiment was done again without the rat receiving a treat first. They did not necessarily push the apparatus. It was found that when they received a treat, they were more likely to give a treat without reward. They displayed a sense of compassion and gave freely to other rats that were not kin after they experienced the kindness of an unprompted treat.

It seems a bit anomalous in terms of evolution, but none the less altruism exists within species, and between species. It can be taught to a certain degree; and while not animals possess the desire to be altruistic, many do. Altruism appears to be prevalent in the animal kingdom.