



## ANIMAL CONSCIOUSNESS RECOGNIZED BY PROMINENT SCIENTISTS

BY E.M. FAY

Francis Crick (1916 - 2004) the co-discoverer of DNA, who devoted his later years to studying consciousness, is a Nobel Prize Laureate (1962) for Physiology/Medicine.

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The reality of animal sentience has been debated by scientists and philosophers for millennia. Pythagoras believed in the kinship of humans to other animals, a logical precursor to crediting non-humans with consciousness. Plato and Plutarch felt that existential harmony would not be attained if we ate animals. Buddhists and Jains considered animals to be sentient beings, and also refused to exploit them. Voltaire, Shelley, Thoreau, Tolstoy, and G. B. Shaw were all concerned with preventing the suffering of animals. Today, many people in the scientific community, as well as others whose lifelong observations give them an authoritative and relevant viewpoint, are firmly convinced that most living beings have the ability to think and feel in a complex manner.

While some skeptics still insist that only Homo sapiens can manage such feats as considering the past, experiencing the present with full cognizance, and planning for the future – i.e., that non-humans do not possess true consciousness – scientific evidence is mounting up to put the lie to that conceited view.

Last July, a group of eminent scientists, including cognitive neuroscientists, neuro-physiologists, neuro-anatomists, neuro-pharmacologists, computational neuroscientists, and physicist Dr. Stephen Hawking, came together for the Francis Crick Memorial Conference on Consciousness in Human and Non-Human Animals, in Cambridge, England. It culminated with the signing of the Cambridge Declaration on Consciousness, which states that non-human animals do indeed have consciousness. The statement was signed by Dr. Philip Low, Dr. David Edelman, Dr. Christof Koch, and other prominent attendees. Part of the Declaration states,

*"We declare the following: the absence of a neo-cortex does not appear to preclude an organism from experiencing affective states. Convergent evidence indicates that non-human animals have the neuro-anatomical, neuro-chemical, and neuro-physiological substrates of conscious states along with the capacity to exhibit intentional behaviours. Consequently, the weight of evidence indicates that humans are not unique in possessing the neurological substrates that generate consciousness. Non-human animals, including all mammals and birds, and many other creatures, including octopuses, also possess substrates."*

This statement strongly repudiates the belief held by René Descartes, the so-called "Father of Modern Philosophy," that animals are not truly conscious, and therefore, humans need not consider their welfare.

Descartes and his followers claimed that animals were simply machines, lacking in mind or emotion, and could not feel. Worse, they thought that it was ridiculous to show them compassion. Tragically for countless animals, this misbegotten philosophy encouraged the

practice of vivisection.

Voltaire was one of many renowned thinkers who were disgusted by Descartes' rationale. He rhetorically asked, "You discover in the animal all the same organs of feeling that are in yourself. Answer me, mechanist, has nature arranged all the means of feeling in this animal so that it may not feel?"

Wildlife Watch was fortunate to be able to speak with two of the scientists who participated in the Crick Conference. Dr. Christof Koch and Professor David Edelman gave generously of their time to help illuminate the issue of consciousness.

Professor David Edelman earned his Ph.D. in Paleo-Anthropology at the University of Pennsylvania, held post-doctoral Fellowships in Neuro-Biology, is a past Fellow at the Neurosciences Institute, and is currently a Professor of Neuroscience at Bennington College. As a co-author of the Declaration, he shared some of his thoughts about animal consciousness with Wildlife Watch. We asked Dr. Edelman if the belief that non-human animals possess consciousness pre-dated his neurological research.

"Yes, it was a gut feeling and belief that this was the case with lots of animals. Not just the observations one makes as a pet owner, but more generally as an observer through live and direct contact or by other means. The behavior of animals, the kinds of interaction and problem-solving they engage in – I had a pretty strong feeling about animal consciousness existing in a variety of species for many years before I thought about it scientifically."

Dr. Christof Koch had collaborated with the late Nobel laureate Francis Crick. Dr. Koch has been on the faculty at California Institute of Technology for 27 years, currently serving as the Troendle Professor of Cognitive and Behavioral Biology. He is now the Chief Scientific Officer at the Allen Institute for Brain Science. His M.S. in physics is from the University of Tübingen; Ph.D. from the Max-Planck-Institut für Biologische Kybernetik.

As to how he came to his own conclusion about consciousness in non-human animals, Dr. Koch said that it was based on theoretical ideas and experimental evidence that show the complexity of animals' behavior and nervous systems. "There is no reason to deny consciousness to animals other than people." Regarding personal experience, he said, "I am both a scientist and a human. I grew up with dogs and I love them. I have been a vegetarian for a number of years because of the insight that mammals are conscious beings and I did not want them to be raised under atrocious conditions and then killed for their flesh."

He stressed that it is not only mammals - pets such as cats and dogs, dolphins, monkeys and others - who have conscious states, but non-mammalian species as well. Birds, and cephalopods such as the octopus, are some of the species with this capability. "Humans are more conscious than others as our brains are more complex, but we all share the sights and sounds, joys and pleasures of life."

He continued: "We should share this planet with an awareness that there are other conscious creatures. Most people don't have direct, personal experience with many kinds of animals, but we should not discount them just because they don't look or act like us."

The Cambridge Declaration on Consciousness completely refutes the position of Descartes and others with similar callous, ill-informed beliefs regarding animals. While many researchers agree with the findings of the Crick Conference, the Declaration has yet to be acknowledged universally.

Asked if he hopes that it will make a difference to attitudes both inside and outside the scientific community, Dr. Edelman said, "Yes. I would hope it does. In many ways we are preaching to the choir, but there are certainly plenty of intelligent lay-people who understand, too. We've seen a variety of reactions to the Declaration, including some who thought we were simply restating the obvious. People's attitudes vary. As humans we have feelings about what we observe, but in science you have to investigate. The whole point is to make observations about how things work. Consciousness is probably the most complex process that any brain is capable of understanding. As a scientist, if I am interested in consciousness I am obligated to find out what is going on with people and animals. If I make the argument that animals are conscious, I can't just say, 'It looks like what we see in humans.' You have to dig deeper and devote yourself to bringing together different strands of evidence from anatomy, behavior, neuro-physiology – all the major evidential strands that you weave together for whatever animal you are considering."

Dr. Koch also hoped that the Crick Conference might help change attitudes. "I very much hope that people will become more conscious of the fact that we are but one of many species that share life, pain, and joy."

Scientific evidence may give more credence to what we feel instinctively: in this case, the ability of animals to think. Kim Bartlett, writing in Animal People, noted the findings of the Crick

Conference represent "The most overlooked victory for animals of 2012." <http://www.animalpeoplenews.org/>. What should have been trumpeted far and wide as a significant development did not receive the mainstream attention it deserved.

**Please inform your local and national newspapers about this important Declaration. Only when a broad spectrum of people recognizes other animals' capacity for thinking and feeling is there a chance that humans' treatment of non-humans will improve significantly.**

The entire Declaration may be read at the Francis Crick Memorial Conference website: <http://fcmconference.org>

