

FEDERATION OF EUROPEAN NEUROSCIENCE SOCIETIES
11th FENS Forum of Neuroscience

7-11 July 2018 – Berlin, Germany
<https://forum2018.fens.org/>

PRESS RELEASE

EMBARGOED UNTIL 9 JULY 2018, 9:30 CEST / 10:30BST

BREAKING TABOOS: ANIMAL EMOTIONS MUST BE STUDIED

Scientists have long hesitated to associate animals with emotions. But according to **Professor Frans de Waal**, if this scientific taboo continues, we risk missing crucial and complex links between emotion and behaviour in both animals and humans.

In a plenary lecture at the FENS Forum of Neuroscience today (9 July) in Berlin, Professor de Waal explained to assembled delegates at Europe's largest brain research conference why the study of animal emotions is a necessary complement to the study of behaviour. His argument is partly based on the sensitivity to the emotions of others that we know as empathy: that many species exhibit strong responses to the distress of others, and are moved to console and help them. The study of empathy highlights the crucial mediating role of emotions, he said.

A biologist, primatologist, and popular author renowned for his work on the social intelligence, power politics, and morality of primates, de Waal noted that some neuroscientists and ethologists are less averse to mentioning animal emotions and are helping change scientific attitudes. For example, neuroscientists studying emotions — such as fear — in the brain of rats might extrapolate their findings to humans. But while emotions such as 'social bonding' are often referred to in the animal behaviour field, emotions are generally still avoided as a specific scientific topic of research. However, as interest rises in human emotions as well as the neuroscience of animal emotions, "the taboo that has hampered animal research in this area is outdated," he asserted.

"We must separate emotions from feelings," said Professor de Waal, who is based at Emory University, and also directs the Living Links Center at the Yerkes National Primate Research Center, in Atlanta, Georgia. Feelings are the private subjective experiences that accompany emotions, he explained. "Emotions, on the other hand, are expressed in the body, such as changes in temperature, heart rate, or brain activity. While science has little access to the feelings of animals, their emotions are exactly as observable and measurable as human emotions."

Empathy is the sensitivity to the emotions and situation of another. "The study of empathy has really taken off in the last few years," he noted. This started with his work in the 1990s on chimpanzees and bonobos, which react very similarly to humans. Apes will, for example, kiss and embrace victims of aggression in an act known as 'consolation.' These reactions to distress are also at the core of what is known as 'empathic concern' in humans. The behavioural similarity is perhaps less clear in other species, but consolation is now known also in dogs, elephants, and rodents. The first neuroscience studies of rodent empathy indicate that emotional contagion is key, and that consolation behaviour disappears when oxytocin receptors are blocked, thus indicating strong neurological similarities with human empathy, he explained.

Professor de Waal reviewed emotional contagion, perspective-taking, theory-of-mind, and targeted helping. He also discussed the sense of fairness in animals, and other signs of highly

developed cooperation. He described his particular research looking at large-brained species such as apes and elephants. "All of these findings indicate that human empathy is a variation on (homologous with) mammalian empathy." He cited many examples from his own work, of emotional responses to the distress or danger or other animals. "In fact, nonhuman primates' entire communication system is emotionally mediated."

"Animals are capable of far more than just 'activity' or 'withdrawal' and the behavioural measures we use should reflect this. Behavioural science offers new and richer models to study," he asserted. As scientists continue to study behaviour, if we keep in mind that emotions organise behaviour, Professor de Waal believes we will understand animal and human behaviour much better.

END

Plenary Lecture P04: Prosocial animals: Empathy and cooperation

Contact

FENS Press Office and all media enquiries:

Elaine Snell, Snell Communications Ltd, London UK (*English language*)

tel: +44 (0)207 738 0424 or mobile +44 (0)797 395 3794

email: Elaine@snell-communications.net

Barbara Ritzert, ProScience Communications, Pöcking, Germany (*German language*)

tel: +49 8157 9397-0 or mobile +49 151 12043311

email: ritzert@proscience-com.de

NOTES TO EDITORS

Professor Frans de Waal Department of Psychology, Emory University, Atlanta, USA
http://www.emory.edu/LIVING_LINKS/people/dewaal.shtml

The 11th FENS Forum of Neuroscience, the largest basic neuroscience meeting in Europe, organised by FENS and hosted by the German Neuroscience Society will attract more than 7,000 international delegates. The Federation of European Neuroscience Societies (FENS) was founded in 1998. With 43 neuroscience member societies across 33 European countries, FENS as an organisation represents 24,000 European neuroscientists with a mission to advance European neuroscience education and research. <https://forum2018.fens.org/>

Further Reading (de Waal)

Mammalian empathy: Behavioral manifestations and neural basis. FBM de Waal, SD Preston, *Nature Reviews: Neuroscience*. 2017, 18(8): 498-509.

DOI: [10.1038/nrn.2017.72](https://doi.org/10.1038/nrn.2017.72)

Oxytocin-dependent consolation behavior in rodents. FB de Waal , JP Burkett, E Andari, ZV Johnson, DC Curry, LJ Young. *Science*. 2016, 351: 375-378.

DOI: [10.1126/science.aac4785](https://doi.org/10.1126/science.aac4785)